

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.94
Test oil : ISO 4113

Combination No. : 0402648933

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQ300/950PA1031-14
Governor no. : 0421801720

Cust. part No. : 0230742702

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0
Tolerance

cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.62
Tolerance mm : \pm 0.10

Rated speed rpm : 1009
guide sleeve
travel mm : 6.84
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.50
Tolerance mm : \pm 0.10

Rated speed rpm : 739

guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.10

Rated speed rpm : 443
guide sleeve
travel mm : 4.35
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 835
guide sleeve
travel mm : 6.38
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 13.00
Rated speed rpm : 998

Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.50
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 350
 Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 5.50

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

Rated speed rpm : 950
 rack travel mm : 14.00
 Tolerance mm : \pm 0.10

Rated speed rpm : 900
 rack travel mm : 14.10
 Tolerance mm : \pm 0.10

Rated speed rpm : 875
 rack travel mm : 14.25
 Tolerance mm : \pm 0.10

Rated speed rpm : 800
 rack travel mm : 14.75
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1200
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.60
 Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 300
 rack travel mm : 11.90
 Tolerance mm : \pm 0.15

Pressure hPa : 450
 rack travel mm : 12.90
 Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
 Check
 speed 1/min : $>$ 80
 Rated speed rpm : $<$ 220
 Check
 speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1200
 Rated speed rpm : 950
 Del. quantity
 cm³/1000 strokes : 214.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 107.0
 Tolerance
 cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.06.94
Test oil : ISO 4113

Combination No. : 0402648938

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQ300/1050PA1030-15
Governor no. : 0421801736

Cust. part No. : 0230743602

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 212.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.50
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.82
Tolerance mm : \pm 0.10

Rated speed rpm : 1103
guide sleeve
travel mm : 6.71
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.35
Tolerance mm : \pm 0.10

Rated speed rpm : 811
guide sleeve
travel mm : 6.09
Tolerance mm : \pm 0.10

Rated speed rpm : 411

guide sleeve
travel mm : 4.46
Tolerance mm : \pm 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 873
guide sleeve
travel mm : 6.26
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 750

Del. quantity
cm³/1000 strokes : 212.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 102.0
tolerance degree : \pm 4.0

rack travel mm : 11.80
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : \pm 15

rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1300

LOW IDLE

control lever		
position degree	:	77.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	6.50
Tolerance mm	:	+ 0.10

rack travel mm	:	2.00
Rated speed rpm	:	400
Tolerance 1/min	:	+ 20

Rated speed rpm	:	200
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CRT mm min.	:	> 8.80
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TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	13.45
Tolerance mm	:	+ 0.05

Rated speed rpm	:	1050
rack travel mm	:	12.80
Tolerance mm	:	+ 0.10

Rated speed rpm	:	900
rack travel mm	:	13.00
Tolerance mm	:	+ 0.05

Rated speed rpm	:	800
rack travel mm	:	13.45
Tolerance mm	:	+ 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	750
rack travel mm	:	13.45
Tolerance mm	:	+ 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	11.15
Tolerance mm	:	+ 0.15

Rated speed rpm	:	400
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Pressure hPa	:	200
rack travel mm	:	11.60
Tolerance mm	:	+ 0.10

Pressure hPa	:	400
rack travel mm	:	12.40
Tolerance mm	:	+ 0.10

START CUT-OUT

Rated speed rpm	:	> 100
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Check		
speed 1/min	:	> 80

Rated speed rpm	:	< 220
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Check		
speed 1/min	:	< 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	750

Rated speed rpm	:	1050
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Del. quantity		
cm ³ /1000 strokes	:	194.0

Tolerance		
cm ³ /1000 strokes	:	+ 2.0

Check tolerance		
cm ³ /1000S.	:	+ 5.0

Speed		
Tolerance		

cm ³ /1000 strokes	:	8.0
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Check tolerance		
cm ³ /1000S.	:	12.0

Aneroid pressure		
hPa	:	-

Rated speed rpm	:	500
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Del. quantity		
cm ³ /1000 strokes	:	137.0

Tolerance		
cm ³ /1000 strokes	:	+ 1.0

Check tolerance		
cm ³ /1000S.	:	+ 4.0

Speed		
Tolerance		

cm ³ /1000 strokes	:	8.0
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Check tolerance		
cm ³ /1000S.	:	12.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.94
Test oil : ISO 4113
Combination No. : 0402648945B
Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886
Governor
Governor design. : RQ300/1050PA1030-10
Governor no. : 0421801718

Cust. part No. : 0230747802

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.79
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.65
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.30
Tolerance mm : \pm 0.10

Rated speed rpm : 792

guide sleeve
travel mm : 6.08
Tolerance mm : \pm 0.10

Rated speed rpm : 414
guide sleeve
travel mm : 3.88
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 847
guide sleeve
travel mm : 6.23
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : \pm 4.0

rack travel mm : 13.00
Rated speed rpm : 1098

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1190

Tolerance 1/min : + 15

rack travel mm : 0.70

Tolerance mm : + 0.70

Rated speed rpm : 1300

LOW IDLE

control lever

position degree : 72.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 5.50

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 405

Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.10

TORQUE CONTROL

Rated speed rpm : 550

rack travel mm : 14.40

Tolerance mm : + 0.05

Rated speed rpm : 1050

rack travel mm : 14.05

Tolerance mm : + 0.10

Rated speed rpm : 950

rack travel mm : 14.20

Tolerance mm : + 0.10

Rated speed rpm : 800

rack travel mm : 14.40

Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400

Pressure hPa : 1200

rack travel mm : 14.40

Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 400

rack travel mm : 10.60

Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 450

rack travel mm : 12.90

Tolerance mm : + 0.10

Pressure hPa : 300

rack travel mm : 11.90

Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200

Rated speed rpm : 1050

Del. quantity

cm³/1000 strokes : 212.0

Tolerance

cm³/1000 strokes : + 2.0

Check tolerance

cm³/1000S. : + 5.0

Speed

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

Aneroid pressure

hPa : -

Rated speed rpm : 400

Del. quantity

cm³/1000 strokes : 107.0

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance

cm³/1000S. : + 4.0

Speed

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00

Rated speed rpm : 1098

Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.11.94

Test oil : ISO 4113

Combination No. : 0402648979

Injection pump

Pump designation : PE8P120A920/4LS7358

EP type number : 0412628899

Governor

Governer design. : RQV350...1100PA795

: -21

Governer no. : 0421814079

Cust. part No. : 1367403

Customer-spec. information

Customer : SCANIA

Motor : DSI14 67/68M

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5

Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde assembly

: 1688901104

Opening pressure

bar : 251.5

Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 4.45

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : ± 0.30

Check tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.95
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 283.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.44
Tolerance mm : \pm 0.25

Rated speed rpm : 1158
guide sleeve
travel mm : 7.87
Tolerance mm : \pm 0.25

Rated speed rpm : 795
guide sleeve
travel mm : 5.12
Tolerance mm : \pm 0.25

Rated speed rpm : 411
guide sleeve
travel mm : 2.06
Tolerance mm : \pm 0.25

Rated speed rpm : 461
guide sleeve
travel mm : 2.64
Tolerance mm : \pm 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.19
Tolerance mm : \pm 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 11.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1270

Rack travel in mm : 14.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 283.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 48.0
tolerance degree : \pm 4.0

control lever
position degree : 105.0
tolerance degree : \pm 4.0

rack travel mm : 13.90
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.80
Tolerance mm : \pm 0.30

Rated speed rpm : 250

CRT mm min. : $>$ 8.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.95
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.20
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 450
rack travel mm : 11.40
Tolerance mm : \pm 0.25

Pressure hPa : 860
rack travel mm : 13.65
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.90
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402648989
Injection pump
Pump designation : PE8P120A720LS7266-2
EP type number : 0412628901
Governor
Governor design. : RQ750PA758-15
Governor no. : 0421801660

Cust. part No. : 1371441

Customer-spec. information
Customer : SCANIA
Motor : DS 14

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
 : ~ 5- 6- 8

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 16.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 315.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 759
guide sleeve
travel mm : 6.36
Tolerance mm : + 0.25

Rated speed rpm : 520
guide sleeve
travel mm : -5.69
Tolerance mm : + 0.25

Rated speed rpm : 850
guide sleeve
travel mm : 16.58
Tolerance mm : + 0.25

Rated speed rpm : 798
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 860
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 315.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 32.0
tolerance degree : + 4.0

control lever
position degree : 94.0
tolerance degree : + 4.0

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 16.15
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.50
Tolerance mm : + 0.20

Rated speed rpm : 500
Pressure hPa : 420
rack travel mm : 13.30
Tolerance mm : + 0.20

Pressure hPa : 680
rack travel mm : 15.05
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 221.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

Aneroid pressure		
hPa	:	-
Del. quantity		
cm ³ /1000 strokes	:	19.0
Tolerance		
cm ³ /1000 strokes	:	+ 4.0
Check tolerance		
cm ³ /1000S.	:	+ 6.0
Tolerance		
cm ³ /1000 strokes	:	5.0
Check tolerance		
cm ³ /1000S.	:	9.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	12.50
Tolerance mm	:	+ 0.20
Del. quantity		
cm ³ /1000 strokes	:	130.0
Tolerance		
cm ³ /1000 strokes	:	+ 20.0
Check tolerance		
cm ³ /1000S.	:	+ 24.0

Note remarks

Edition : 02.08.94
Test oil : ISO 4113

Injection pump
Pump designation : PES6P120A720LS7238
 : -10
EP type number : 0412726873

Governor
Governor design. : RQ300/1100PA1008-4
Governor no. : 0421801745

Customer-spec. information
Customer : MB-NFZ
Motor : OM447 hLA
Power KW : 220.0

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Tolerance l/h : ± 10.0

Opening pressure : 208.5
Tolerance bar : ± 1.5

```
x inside diameter : 3.0
x length mm      : 1000
```

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

```
Prestroke mm      :      5.55
Tolerance mm      :  + 0.05
```

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Time to cyl. no. : 6

Rated speed rpm : 600

Rack travel in mm : 13.80
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 206.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 650

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600

Aneroid pressure
hPa : 600

Del. quantity
cm³/1000 strokes : 206.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : + 4.0

rack travel mm : 13.30
Rated speed rpm : 1153
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 8.20

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 13.80
Tolerance mm : + 0.10

Rated speed rpm : 1100
rack travel mm : 14.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 150
rack travel mm : -2.10

Tolerance mm : \pm 0.05

Pressure hPa : 350
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Pressure hPa : 800
rack travel mm : 0.20
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 222.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1153
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.94
Test oil : ISO 4113
Combination No. : 0403244034
Injection pump
Pump designation : PES4MW100/720RS1519
: -3
EP type number : 0413204018
Governor
Governor design. : RGV300...1300MW132
: -3
Governor no. : 0420083296
Cust. part No. : 0240740702

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 86.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : ± 0.25

Rated speed rpm : 1345
guide sleeve
travel mm : 7.64
Tolerance mm : ± 0.25

Rated speed rpm : 1140
guide sleeve
travel mm : 5.88
Tolerance mm : ± 0.25

Rated speed rpm : 629
guide sleeve
travel mm : 3.15
Tolerance mm : ± 0.25

Rated speed rpm : 679
guide sleeve
travel mm : 3.53
Tolerance mm : ± 0.25

Rated speed rpm : 800
guide sleeve
travel mm : 4.00
Tolerance mm : ± 0.25

Rated speed rpm : 1596
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1690
guide sleeve
travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 10.00

Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 700

Del. quantity

cm³/1000 strokes : 86.0

Tolerance

cm³/1000 strokes : ± 1.0

Check tolerance

cm³/1000S. : ± 3.0

Spreed

Tolerance

cm³/1000 strokes : 3.5

Check tolerance

cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : ± 4.0

rack travel mm : 10.10
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1435
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00

Tolerance mm : \pm 0.10
Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.15
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : 250
rack travel mm : 0.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 200
Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 80.0

Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 71.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.94
Test oil : ISO 4113
Combination No. : 0403244035
Injection pump
Pump designation : PES4MW100/720RS1519
: -3
EP type number : 0413204018
Governor
Governor design. : RQV300...1300MW132
: -3
Governor no. : 0420083296
Cust. part No. : 0240740802

Customer spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.15
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 86.0
Tolerance
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000S. : ± 3.0
Speed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : \pm 0.25

Rated speed rpm : 1345
guide sleeve
travel mm : 7.64
Tolerance mm : \pm 0.25

Rated speed rpm : 1140
guide sleeve
travel mm : 5.88
Tolerance mm : \pm 0.25

Rated speed rpm : 629
guide sleeve
travel mm : 3.15
Tolerance mm : \pm 0.25

Rated speed rpm : 679
guide sleeve
travel mm : 3.53
Tolerance mm : \pm 0.25

Rated speed rpm : 800
guide sleeve
travel mm : 4.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1596
guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1690
guide sleeve
travel mm : 13.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 10.00
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 86.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : \pm 4.0

rack travel mm : 10.10
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1435
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00

Tolerance mm : \pm 0.10
 Rated speed rpm : 200
 CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
 rack travel mm : 11.15
 Tolerance mm : \pm 0.05

 Rated speed rpm : 750
 rack travel mm : 11.15
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 700
 rack travel mm : 11.15
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 Tolerance mm : \pm 0.10

 Rated speed rpm : 500

 Pressure hPa : 250
 rack travel mm : 0.30
 Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
 Check
 speed 1/min : $>$ 80
 Rated speed rpm : $<$ 200
 Check
 speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 700
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 80.0

Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 7.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 71.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.10
 Rated speed rpm : 1345
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 125.0
 Tolerance
 cm³/1000 strokes : \pm 5.0
 Check tolerance
 cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.94
Test oil : ISO 4113
Combination No. : 0403246036
Injection pump
Pump designation : PES6MW100/720RS1517
-2
EP type number : 0413206019
Governor
Governor design. : RQV300...1300MW132
-4
Governor no. : 0420083299
Cust. part No. : 0240744402

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 155.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.30
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 118.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : ± 0.25

Rated speed rpm : 1353
guide sleeve
travel mm : 6.70
Tolerance mm : ± 0.25

Rated speed rpm : 1100
guide sleeve
travel mm : 4.76
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : ± 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.50
Tolerance mm : ± 0.25

Rated speed rpm : 710
guide sleeve
travel mm : 3.03
Tolerance mm : ± 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 13.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : ± 4.0

rack travel mm : 12.30
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.80
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.30
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.30
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.30
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 3.00
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 1.20
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 200

Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 48.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.94
Test oil : ISO 4113
Combination No. : 0403246038
Injection pump
Pump designation : PES6MW100/720RS1517
: -2
EP type number : 0413206019
Governor
Governor design. : RGV300...1300MW132
: -10
Governor no. : 0420083315
Cust. part No. : 0250743902

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 155.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.30
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 118.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : \pm 0.25

Rated speed rpm : 1354
guide sleeve
travel mm : 6.71
Tolerance mm : \pm 0.25

Rated speed rpm : 1090
guide sleeve
travel mm : 4.70
Tolerance mm : \pm 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : \pm 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.54
Tolerance mm : \pm 0.25

Rated speed rpm : 690
guide sleeve
travel mm : 2.97
Tolerance mm : \pm 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 11.00
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : \pm 4.0

rack travel mm : 12.30
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.80
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.30
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.30
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.30
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 3.00
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 1.20
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 200

Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 48.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.12.94
Test oil : ISO 4113

Combination No. : 0403474025

Injection pump
Pump designation : PES4MW100/720RS1235
EP type number : 0413404121

Governor
Governor design. : RSV350...1200MWOA346
: -3
Governor no. : 0420085179

Cust. part No. : 0260740602

Customer-spec. information
Customer : MB-NFZ
Motor : OM 364 A
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Set pneumatic shutoff device to
control-rod stop = 0.5...1.5 mm
control-rod travel at 4.5 bar
atmospheric pressure.

Test hydr. locking device for starting
with 800...1200 hPa air pressure.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 89.0

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0
Del. quantity	
cm ³ /1000 strokes	: 12.0
Tolerance	
cm ³ /1000 strokes	: + 2.0
Check tolerance	
cm ³ /1000S.	: + 4.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
governor spring	
pre-tension	
click setting x	: 5.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure	
hPa	: 700
Del. quantity	
cm ³ /1000 strokes	: 89.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spreed	

Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0

RATED SPEED

control lever	
position degree	: 108.0
tolerance degree	: + 4.0
rack travel mm	: 1.00
Tolerance mm	: + 0.70
Rated speed rpm	: 1450
rack travel mm	: 4.00
Rated speed rpm	: 1340
rack travel mm	: 10.50
Rated speed rpm	: 1248
Tolerance 1/min	: + 8

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm	: 350
rack travel mm	: 6.40

Testing:

rack travel mm	: 2.00
Rated speed rpm	: 100
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1200
rack travel mm	: 11.55
Tolerance mm	: + 0.05
Rated speed rpm	: 600
rack travel mm	: 12.40
Tolerance mm	: + 0.10
Rated speed rpm	: 1000
rack travel mm	: 12.00
Tolerance mm	: + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.95
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 375
rack travel mm : 11.65
Tolerance mm : \pm 0.15

Pressure hPa : 200
rack travel mm : 10.45
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 85.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.12.94
Test oil : ISO 4113
Combination No. : 0403474026
Injection pump
Pump designation : PES4MW100/720RS1235
EP type number : 0413404121
Governor
Governor design. : RSV350...1300MWOA346
: -2
Governor no. : 0420085177
Cust. part No. : 0260740702

Customer spec. information
Customer : MB-NFZ
Motor : OM364A
Power KW : 79.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413047
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Set pneumatic shutoff device to
control-rod stop = 0.5...1.5 mm
control-rod travel at 4.5 bar
atmospheric pressure.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.75
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 10.85
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 110.0
tolerance degree : + 4.0

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1550

rack travel mm : 4.00
Rated speed rpm : 1425

rack travel mm : 9.80
Rated speed rpm : 1345
Tolerance 1/min : + 5

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.40

Testing:

rack travel mm : 2.00
Rated speed rpm : 460
Tolerance 1/min : + 40

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 10.85
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 11.75
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 11.75
Tolerance mm : + 0.05

Rated speed rpm : 1175
rack travel mm : 11.15
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.85
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 11.30
Tolerance mm : \pm 0.15

Pressure hPa : 200
rack travel mm : 10.80
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 76.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 47.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.12.94
Test oil : ISO 4113

Combination No. : 0403476069

Injection pump
Pump designation : PES6MW100/720RS1129
EP type number : 0413406121

Governor
Governor design. : RSV750...1250MWOA325
: -2
Governor no. : 0420085115

Cust. part No. : 0110748602

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 LA
Power KW : 146.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1230

Rack travel in mm : 11.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

governor spring
pre-tension
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1230
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : \pm 4.0

rack travel mm : 1.00
Tolerance mm : \pm 0.70
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 78.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 750
rack travel mm : 4.70
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 780
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1230
rack travel mm : 11.55
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.55
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 90.0

Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.12.94
Test oil : ISO 4113

Combination No. : 0403476080

Injection pump
Pump designation : PES6MW100/720RS1191
EP type number : 0413406179

Governor
Governor design. : RSV350...1300MWOA329
: -6
Governor no. : 0420085136

Cust. part No. : 0180747702

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 LA
Power KW : 170.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Test hydr. locking device for starting
with 800...1200 hPa air pressure.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1280

Rack travel in mm : 14.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 111.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1280
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 109.0
tolerance degree : + 4.0

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.10
Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1280
rack travel mm : 14.05
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 14.05
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 14.05
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

rack travel mm : 10.15
 Tolerance mm : \pm 0.05

 Rated speed rpm : 500

 Pressure hPa : 500
 rack travel mm : 12.55
 Tolerance mm : \pm 0.15

 Pressure hPa : 350
 rack travel mm : 11.35
 Tolerance mm : \pm 0.05

Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 105.0
 Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 7.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 35.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 105.0
 Tolerance
 cm³/1000 strokes : \pm 5.0
 Check tolerance
 cm³/1000S. : \pm 8.0

LOW IDLE

Note remarks

Edition : 16.12.94
Test oil : ISO 4113

Injection pump
Pump designation : PES3A80D410/3RS1324
EP type number : 0410483017

Cust. part No. :

TEST BENCH REQUIREMENTS

x inside diameter : 2.0

Check tolerance	
cm ³ /1000S.	4.0

2nd speed rpm : 325

Rack travel in mm : 8.60
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 50.5
Tolerance
cm³/1000 strokes : \pm 0.5

Check tolerance
cm³/1000S. : \pm 2.0

Spread
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

RATED SPEED

control lever
position degree : 108.0
tolerance degree : \pm 4.0

rack travel mm : 10.20
Rated speed rpm : 925

Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 960
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

rack travel mm : 4.00
Rated speed rpm : 975

LOW IDLE

control lever
position degree : 77.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.10

Testing:

Rated speed rpm : 325
rack travel mm : 8.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 880
rack travel mm : 11.20
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 11.25
Tolerance mm : \pm 0.10

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 925
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.94
Test oil : ISO 4113
Combination No. : 0400463123
Injection pump
Pump designation : PES3A80D410/3RS1324
EP type number : 0410483017
Governor
Governor design. : RSV325...1150A8C275L
Governor no. : 0420232305

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F3L912

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 2
Phasing : 0-120-240
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 10.65
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 50.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Speed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.5
2nd speed rpm : 325

Rack travel in mm : 8.60
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 3.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : \pm 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 50.5
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 3.5

RATED SPEED

control lever
 position degree : 105.0
 tolerance degree : \pm 4.0
 rack travel mm : 9.60
 Rated speed rpm : 1195
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1235
 Tolerance 1/min : \pm 15

rack travel mm : 1.00
 Tolerance mm : \pm 0.70
 Rated speed rpm : 1350

rack travel mm : 4.00
 Rated speed rpm : 1240

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 8.10

Testing:

Rated speed rpm : 325
 rack travel mm : 8.60
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 680
 Tolerance 1/min : \pm 30

TORQUE CONTROL

Dimension a mm : 1.30

Rated speed rpm : 1150
 rack travel mm : 10.65
 Tolerance mm : \pm 0.05

Rated speed rpm : 600
 rack travel mm : 11.95
 Tolerance mm : \pm 0.05

Rated speed rpm : 800
 rack travel mm : 11.35
 Tolerance mm : \pm 0.15

BREAKAWAY

Rack travel in mm : 9.60

Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 19.00
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113

Combination No. : 0400463124

Injection pump
Pump designation : PES3A80D410/3RS1324
EP type number : 0410483017

Governor
Governor design. : RSV325...1150A8C494
 : -4L
Governor no. : 0420232572

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F3L912

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 50.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Spread

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

2nd speed rpm : 325

Rack travel in mm : 8.70

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 3.5

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 50.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

RATED SPEED

control lever
position degree : 104.0
tolerance degree : \pm 4.0

rack travel mm : 9.60
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1410

rack travel mm : 4.00
Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.20

Testing:

Rated speed rpm : 325
rack travel mm : 8.70
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 490
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 10.60
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 11.65
Tolerance mm : \pm 0.05

Rated speed rpm : 925
rack travel mm : 11.10

Tolerance mm : \pm 0.10

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.94
Test oil : ISO 4113
Combination No. : 0400463129
Injection pump
Pump designation : PES3A80D410/3RS1324
EP type number : 0410483017
Governor
Governor design. : RSV325...1150A8C657L
Governor no. : 0420232326

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F3L912

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 50.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

2nd speed rpm : 325

Rack travel in mm : 8.80
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 12.5

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 3.5

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 50.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

RATED SPEED

control lever
position degree : 104.0
tolerance degree : ± 4.0

rack travel mm : 9.60
Rated speed rpm : 1195
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1240

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.30

Testing:

Rated speed rpm : 325
rack travel mm : 8.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 690
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 10.60
Tolerance mm : ± 0.05

Rated speed rpm : 900
rack travel mm : 11.15
Tolerance mm : ± 0.15

Rated speed rpm : 500
rack travel mm : 11.65
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.94
Test oil : ISO 4113
Combination No. : 0400464119
Injection pump
Pump designation : PES4A75D410/3RS1255
EP type number : 0410474966
Governor
Governor design. : RSV325...1400A8C495L
Governor no. : 0420232302

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F4L912

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

C04

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 10.20
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 44.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0
2nd speed rpm : 325

Rack travel in mm : 9.00
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 3.5
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 44.0
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

RATED SPEED

control lever
 position degree : 119.0
 tolerance degree : \pm 4.0

rack travel mm : 9.20
 Rated speed rpm : 1445
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1485
 Tolerance 1/min : \pm 15

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1700

rack travel mm : 4.00
 Rated speed rpm : 1495

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 8.50

Testing:

Rated speed rpm : 325
 rack travel mm : 9.00
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 700
 Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 1400
 rack travel mm : 10.20
 Tolerance mm : \pm 0.05

Rated speed rpm : 500
 rack travel mm : 11.55
 Tolerance mm : \pm 0.05

Rated speed rpm : 955
 rack travel mm : 10.90
 Tolerance mm : \pm 0.10

BREAKAWAY

Rack travel in mm : 9.20
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 9.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.94
Test oil : ISO 4113
Combination No. : 0400464124
Injection pump
Pump designation : PES4A80D410/3RS1300
EP type number : 0410484015
Governor
Governor design. : RSV325...1150A8C298L
Governor no. : 0420232308

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F4L912

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 10.50
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 50.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0
2nd speed rpm : 325

Rack travel in mm : 8.80
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + 1.5
 Check tolerance
 cm³/1000S. : + 3.5
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 50.5
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

RATED SPEED

control lever
 position degree : 108.0
 tolerance degree : + 4.0

rack travel mm : 9.50
 Rated speed rpm : 1195
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1245
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1420

rack travel mm : 4.00
 Rated speed rpm : 1270

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 5.50

Testing:

Rated speed rpm : 325
 rack travel mm : 8.80
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 10.50
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 11.25
 Tolerance mm : + 0.05

Rated speed rpm : 880
 rack travel mm : 10.90
 Tolerance mm : + 0.10

BREAKAWAY

Rack travel in mm : 9.50
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.12.94
Test oil : ISO 4113

Combination No. : 0400866207

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9410230025

Governor
Governor design. : RSV400...1100A0C2190
: -79R
Governor no. : 0420233318

Cust. part No. : 3921 143

Customer-spec. information
Customer : CDC
Motor : 6 C 8.3
Power KW : 129.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 123.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

2nd speed rpm : 400

Rack travel in mm : 5.60

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 123.5
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : + 4.0

rack travel mm : 9.65
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1205
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.10

Testing:

Rated speed rpm : 400
rack travel mm : 5.60
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 500
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.65
Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 9.65
Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.60

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.12.94
Test oil : ISO 4113
Combination No. : 0401446150
Injection pump
Pump designation : PE6R130/720RS1506
EP type number : 0411436002
Governor
Governor design. : RQV250...1050R4K
Governor no. : 0421415003
Cust. part No. : 865 020 P02

Customer-spec. information
Customer : PENTA
Motor : TAMD163 P-A
Power KW : 553.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2417413078
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test Lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.45
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 14.40
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 450.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 13.0

Check tolerance
cm³/1000S. : 17.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.26
Tolerance mm : ± 0.25

Rated speed rpm : 1106
guide sleeve
travel mm : 9.18
Tolerance mm : ± 0.25

Rated speed rpm : 895
guide sleeve
travel mm : 6.42
Tolerance mm : ± 0.25

Rated speed rpm : 310
guide sleeve
travel mm : 2.00
Tolerance mm : ± 0.25

Rated speed rpm : 360
guide sleeve
travel mm : 2.41
Tolerance mm : ± 0.25

Rated speed rpm : 570
guide sleeve
travel mm : 3.54
Tolerance mm : ± 0.25

Rated speed rpm : 1360
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1205

Rack travel in mm : 11.00
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 2200
Del. quantity
cm³/1000 strokes : 450.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 13.0
Check tolerance
cm³/1000S. : 17.0

RATED SPEED

control lever
position degree : 65.0
tolerance degree : ± 4.0

control lever
position degree : 119.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1105
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

control lever
position degree : 20.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.65
Tolerance mm : \pm 0.20

Rated speed rpm : 150

CRT mm min. : $>$ 7.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.20
Tolerance mm : \pm 0.15

Rated speed rpm : 975
rack travel mm : 14.30
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 2200
rack travel mm : 14.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : \pm 0.15

Rated speed rpm : 1050

Pressure hPa : 1580
rack travel mm : 5.10
Tolerance mm : \pm 0.10

Pressure hPa : 410
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 2200
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 412.0
Tolerance

cm³/1000 strokes : \pm 4.0

Check tolerance
cm³/1000S. : \pm 7.0

Speed

Tolerance

cm³/1000 strokes : 15.0

Check tolerance
cm³/1000S. : 19.0

Aneroid pressure

hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 238.0
Tolerance

cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1105
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 410.0
Tolerance

cm³/1000 strokes : \pm 20.0

Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.12.94
Test oil : ISO 4113

Combination No. : 0401856700

Injection pump
Pump designation : PE6P110A721RS3101
EP type number : 0411816725

Governor
Governor design. : RQ300/1200PA412
Governor no. : 0421801172

Cust. part No. :

Customer spec. information
Customer : SNF
Motor : WD615.67
Power KW : 206.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.35
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 163.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000s. : 7.5

Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000s. : +- 5.5

Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : +- 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 163.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000s. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 7.5

RATED SPEED

control lever
position degree : 40.0
tolerance degree : +- 4.0

rack travel mm : 11.00
Rated speed rpm : 1253
Tolerance 1/min : +- 8

rack travel mm : 4.00
Rated speed rpm : 1340
Tolerance 1/min : +- 15

rack travel mm : 0.75
Tolerance mm : +- 0.75
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 14.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 425
Tolerance 1/min : +- 20

Rated speed rpm : 100

CRT mm min. : > 7.50

TORQUE CONTROL

Dimension a mm : 0.35

Rated speed rpm : 1075
rack travel mm : 12.30
Tolerance mm : +- 0.10

Rated speed rpm : 985
rack travel mm : 12.50
Tolerance mm : +- 0.10

Rated speed rpm : 600
rack travel mm : 12.75
Tolerance mm : +- 0.15

Rated speed rpm : 1200
rack travel mm : 12.05
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 12.45
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.50
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.20
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 330
rack travel mm : 10.35
Tolerance mm : \pm 0.15

Pressure hPa : 420
rack travel mm : 11.55
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1253
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113
Combination No. : 0401876804
Injection pump
Pump designation : PE6P120A320RS3339
EP type number : 0411826812
Governor
Governor design. : RSV325...1400POA590
Governor no. : 0421833450
Cust. part No. : 3825199
: -P04 15.12.94

Customer-spec. information
Customer : PENTA
Motor : TAMD63 L
Power KW : 228.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2417413077
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 7688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 3.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 6.40
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 8.90
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 141.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.55
Tolerance mm : + 0.25

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 2000
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 68.0
tolerance degree : + 4.0

control lever
position degree : 118.0
tolerance degree : + 4.0

rack travel mm : 7.90
Rated speed rpm : 1470
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1530
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1630

LOW IDLE

control lever
position degree : 82.0
tolerance degree : + 4.0

control lever
position degree : 32.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 3.70

Testing:

Rated speed rpm : 325
rack travel mm : 4.20
Tolerance mm : + 0.20

rack travel mm : 2.00
Rated speed rpm : 460
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1400
rack travel mm : 8.90
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000

rack travel mm : 8.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 6.60
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 870
rack travel mm : 1.90
Tolerance mm : \pm 0.15

Pressure hPa : 510
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 7.90
Rated speed rpm : 1470
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.00
Tolerance mm : \pm 0.25

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402036747
Injection pump
Pump designation : PES6P110A12ORS3296
EP type number : 0412016738
Governor
Governor design. : RQV400...1250PA1014
: -1K
Governor no. : 0421815291
Cust. part No. : 3921837

Customer spec. information
Customer : CUMMINS
Motor : 6BTA-A
Power KW : 130.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.00
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 13.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 145.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 59.0
tolerance degree : ± 4.0

rack travel mm : 12.00
Rated speed rpm : 1300
Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1455
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1580

LOW IDLE

control lever
position degree : 15.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 5.30
Tolerance mm : ± 0.10

Rated speed rpm : 275
CRT mm min. : > 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 525

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.05
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 11.10
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200
rack travel mm : 13.05
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 8.50
Tolerance mm : ± 0.20

Rated speed rpm : 1250
 Pressure hPa : 565
 rack travel mm : 11.80
 Tolerance mm : \pm 0.20
 Pressure hPa : 255
 rack travel mm : 9.65
 Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80
 Rated speed rpm : < 290
 Check
 speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1200
 Rated speed rpm : 800
 Del. quantity
 cm³/1000 strokes : 138.5
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 99.5
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.00
 Rated speed rpm : 1300
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 11.40
 Tolerance mm : \pm 0.50
 Del. quantity
 cm³/1000 strokes : 155.0
 Tolerance
 cm³/1000 strokes : \pm 20.0
 Check tolerance
 cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113
Combination No. : 0402046789
Injection pump
Pump designation : PES6P120A320RS3139
EP type number : 0412026718
Governor
Governor design. : RQV275...1000PA728
Governor no. : 0421813657
Cust. part No. : CCEP 5070 -116

Customer-spec. information

Customer : RVI
Motor : MIDR 062045 H
Power KW : 227.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413071
Inlet press. bar : 2.5
Test nozzle holder
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

Start-of-delivery mark 9° cam angle
after start of delivery cyl. 1.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 195.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance cm ³ /1000S.	: +- 4.0
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Speed Tolerance cm ³ /1000 strokes	: 5.0
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Check tolerance cm ³ /1000S.	: 9.0
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(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1170

Rack travel in mm	: 16.50
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1000
Del. quantity cm ³ /1000 strokes	: 195.0
Tolerance cm ³ /1000 strokes	: +- 1.0
Check tolerance cm ³ /1000S.	: +- 4.0
Speed Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 119.0
tolerance degree	: +- 4.0

rack travel mm	: -1.00
Rated speed rpm	: 1075
Tolerance 1/min	: +- 5

rack travel mm	: -7.15
Rated speed rpm	: 1190
Tolerance 1/min	: +- 15

rack travel mm	: -10.65
Tolerance mm	: +- 0.50
Rated speed rpm	: 1300

LOW IDLE

control lever position degree	: 67.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm	: 275
rack travel mm	: -5.30
Tolerance mm	: +- 0.15

Rated speed rpm	: 200
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CRT mm max.	: < -3.80
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CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 370
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TORQUE CONTROL

Rated speed rpm	: 600
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ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 500
Pressure hPa	: 1000

MEASUREMENT

Pressure hPa	: -
Rated speed rpm	: 500
rack travel mm	: -2.20
Tolerance mm	: +- 0.20

Rated speed rpm	: 500
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Pressure hPa	: 160
rack travel mm	: -1.70
Tolerance mm	: +- 0.10

Pressure hPa	: 280
rack travel mm	: -0.75
Tolerance mm	: +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 103.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1075
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113
Combination No. : 0402646780
Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0412626912
Governor
Governor design. : RQ300/950PA1121
Governor no. : 0421801701
Cust. part No. : 04221524KY016517

Customer spec. information
Customer : KHD
Motor : BF6M1015/C
Power KW : 300.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 6- 3- 5- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 950
Rack travel in mm : 14.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 362.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.23
Tolerance mm : \pm 0.10

Rated speed rpm : 1001
guide sleeve
travel mm : 6.36
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 385
guide sleeve
travel mm : 5.22
Tolerance mm : \pm 0.10

Rated speed rpm : 450

guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1150
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 700

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 1700

Del. quantity
cm³/1000 strokes : 362.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 101.0
tolerance degree : \pm 4.0

rack travel mm : 13.50
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1070
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1165

LOW IDLE

control lever
position degree : 75.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 355
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.10

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 14.50
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1700
rack travel mm : 14.50
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.00
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 10.95
Tolerance mm : \pm 0.20

Pressure hPa : 1000
rack travel mm : 13.10
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100

DC2

Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.12.94

Test oil : ISO 4113

Combination No. : 0402646947

Injection pump

Pump designation : PE6P130A720RS7225

EP type number : 0412636817

Governor

Governer design. : RGV300...950PA1002

: -1K

Governer no. : 0421815280

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

Motor : 8210.42.400

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde
assembly

: 1688901105

Opening pressure
bar

: 208.5

Tolerance bar : ± 1.5

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 5.05

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.00

Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

S.o.d. blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.80

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 314.0

Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 4.90
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 22.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1240
Rack travel in mm	: 8.00
Tolerance mm	: ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 314.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	

Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 115.0
tolerance degree	: ± 4.0
rack travel mm	: 12.80
Rated speed rpm	: 995
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1120
Tolerance 1/min	: ± 15
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1300
rack travel mm	: 4.00

LOW IDLE

control lever	
position degree	: 68.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 4.90
Tolerance mm	: ± 0.10
Rated speed rpm	: 100
CRT mm min.	: > 6.40

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 400
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TORQUE CONTROL

Rated speed rpm	: 900
rack travel mm	: 13.80
Tolerance mm	: ± 0.05
Rated speed rpm	: 700
rack travel mm	: 13.65
Tolerance mm	: ± 0.10

Rated speed rpm : 550
rack travel mm : 12.85
Tolerance mm : \pm 0.10

Rated speed rpm : 300
rack travel mm : 12.20
Tolerance mm : \pm 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 900
rack travel mm : 13.80
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 900

Pressure hPa : 300
rack travel mm : 10.45
Tolerance mm : \pm 0.20

Pressure hPa : 580
rack travel mm : 12.70
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 289.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113

Combination No. : 0402646971

Injection pump
Pump designation : PE6P120A320RS7218
: -10Z
EP type number : 0412626892

Governor
Governor design. : RQV275...1000PA939
: -2
Governor no. : 0421813986

Cust. part No. : 1249337/5

Customer-spec. information
Customer : DAF
Motor : WS 242 L

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 105
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 6.10
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1130

Rack travel in mm : 13.90
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : ± 4.0

rack travel mm : 12.95
Rated speed rpm : 1042
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 82.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.00
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 7.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.95
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 13.95
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 13.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 600

Pressure hPa : 420
rack travel mm : 13.35
Tolerance mm : \pm 0.05

Pressure hPa : 300
rack travel mm : 12.55
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.95
Rated speed rpm : 1042
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 275

D09

rack travel mm : 6.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113

Combination No. : 0402646973

Injection pump
Pump designation : PE6P120A32ORS7218
: -10Z
EP type number : 0412626892

Governor
Governor design. : RQ275/1000PA936-2
Governor no. : 0421801633

Cust. part No. : 1249172/5

Customer-spec. information

Customer : DAF
Motor : WS 242 L
Power KW : 242.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity	_____
cm ³ /1000 strokes :	210.0
Tolerance	_____
cm ³ /1000 strokes :	+ 1.0
Check tolerance	_____
cm ³ /1000S. :	+ 4.0
Speed	_____
Tolerance	_____
cm ³ /1000 strokes :	5.0
Check tolerance	_____
cm ³ /1000S. :	9.0
2nd speed rpm :	275
Rack travel in mm :	6.10
Tolerance mm :	+ 0.10
Del. quantity	_____
cm ³ /1000 strokes :	17.0
Tolerance	_____
cm ³ /1000 strokes :	+ 3.0
Check tolerance	_____
cm ³ /1000S. :	+ 6.0
Speed	_____
Tolerance	_____
cm ³ /1000 strokes :	8.0
Check tolerance	_____
cm ³ /1000S. :	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	275
guide sleeve	
travel mm :	1.64
Tolerance mm :	+ 0.10
Rated speed rpm :	1047
guide sleeve	
travel mm :	6.43
Tolerance mm :	+ 0.10
Rated speed rpm :	1000
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10
Rated speed rpm :	356
guide sleeve	
travel mm :	4.13
Tolerance mm :	+ 0.10

Rated speed rpm :	450
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10

Rated speed rpm :	1220
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

control lever	
position degree :	- 1
Rated speed rpm :	550

Rack travel in mm :	16.00
Tolerance mm :	+ 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	850
Aneroid pressure	
hPa :	1000
Del. quantity	
cm ³ /1000 strokes :	210.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 4.0
Speed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S. :	9.0

RATED SPEED

control lever	
position degree :	109.0
tolerance degree :	+ 4.0
rack travel mm :	12.95
Rated speed rpm :	1042
Tolerance 1/min :	+ 8
rack travel mm :	4.00
Rated speed rpm :	1135
Tolerance 1/min :	+ 15
rack travel mm :	0.70
Tolerance mm :	+ 0.70
Rated speed rpm :	1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : \pm 20

Rated speed rpm : 175

CRT mm min. : $>$ 6.50

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.95
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 13.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 600

Pressure hPa : 420
rack travel mm : 13.35
Tolerance mm : \pm 0.05

Pressure hPa : 300

rack travel mm : 12.55
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.95
Rated speed rpm : 1042
Tolerance 1/min : \pm 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 6.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113
Combination No. : 0402646988
Injection pump
Pump designation : PE6P120A320RS7230
: -10X
EP type number : 0412626899
Governor
Governor design. : RQV250...1000PA990K
Governor no. : 0421815274
Cust. part No. : 1250705/4

Customer-spec. information

Customer : DAF
Motor : WS 295 L
Power KW : 295.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 259.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 250

Rack travel in mm : 6.10
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.53
Tolerance mm : + 0.10

Rated speed rpm : 1038
guide sleeve
travel mm : 9.74
Tolerance mm : + 0.10

Rated speed rpm : 686
guide sleeve
travel mm : 6.41
Tolerance mm : + 0.25

Rated speed rpm : 284
guide sleeve
travel mm : 2.27
Tolerance mm : + 0.25

Rated speed rpm : 334
guide sleeve
travel mm : 3.17
Tolerance mm : + 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 3.79
Tolerance mm : + 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1130

Rack travel in mm : 13.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 259.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : + 4.0

rack travel mm : 12.95
Rated speed rpm : 1032
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : \pm 20

Rated speed rpm : 150
CRT mm min. : $>$ 7.00

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 825
rack travel mm : 13.40
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 12.20
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 13.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 980
rack travel mm : 8.90
Tolerance mm : \pm 0.10

Rated speed rpm : 980
Pressure hPa : 730
rack travel mm : 12.65
Tolerance mm : \pm 0.05

Pressure hPa : 300
rack travel mm : 9.80
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 257.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.95
Rated speed rpm : 1032
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402646992
Injection pump
Pump designation : PE6P120A720RS7021
EP type number : 0412626869
Governor
Governor design. : RQ200/1000PA1036
Governor no. : 0421801649

Cust. part No. : 1363610

Customer-spec. information
Customer : SCANIA
Motor : DSI11E01

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 258.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 6.30
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.08
Tolerance mm : \pm 0.10

Rated speed rpm : 1054
guide sleeve
travel mm : 4.39
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 353
guide sleeve
travel mm : 3.46
Tolerance mm : \pm 0.10

Rated speed rpm : 420
guide sleeve
travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1460
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 258.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 43.0
tolerance degree : \pm 4.0

control lever
position degree : 98.0
tolerance degree : \pm 4.0

rack travel mm : 12.40
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 66.0
tolerance degree : \pm 4.0

control lever
position degree : 11.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.30
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : \pm 30

Rated speed rpm : 150

CRT mm min. : $>$ 8.50

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.45
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.90
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 235
rack travel mm : 13.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 227.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 268.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402648836
Injection pump
Pump designation : PE8P120A720LS7125
: -10T
EP type number : 0412628890
Governor
Governor design. : RQV200...950PA736-4
Governor no. : 0421813646
Cust. part No. : 397963

Customer-spec. information
Customer : SCANIA
Motor : DSC14 03 L09,L10

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750015
Outside diameter : 6.0
x inside diameter : 1.5

D21

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8
Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.85
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 222.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1040

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 222.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : \pm 4.0

control lever
position degree : 115.0
tolerance degree : \pm 4.0

rack travel mm : 12.80
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

control lever
position degree : 11.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 6.50

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.85
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.80
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 325
rack travel mm : 11.50
Tolerance mm : \pm 0.20

Pressure hPa : 445
rack travel mm : 12.95
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 995

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402648839
Injection pump
Pump designation : PE8P120A720LS7125
: -10T
EP type number : 0412628890
Governor
Governor design. : RQV200...950PA736-1
Governor no. : 0421813551
Cust. part No. : 380804

Customer-spec. information
Customer : SCANIA
Motor : DSC14 03

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750015
Outside diameter : 6.0
x inside diameter : 1.5

D24

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 222.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1040

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 222.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : ± 4.0

control lever
position degree : 95.0
tolerance degree : ± 4.0

rack travel mm : 12.80
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 44.0
tolerance degree : ± 4.0

control lever
position degree : 10.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 5.00
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 30

Rated speed rpm : 125

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.85
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 215
rack travel mm : 12.00
Tolerance mm : \pm 0.15

Pressure hPa : 365
rack travel mm : 12.85
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 995

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402648866
Injection pump
Pump designation : PE8P120A720LS7125
: -10
EP type number : 0412628891
Governor
Governor design. : RQV350...1050PA795
: -7
Governor no. : 0421813768
Cust. part No. : 1305128

Customer-spec. information
Customer : SCANIA
Motor : DS 14

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750015
Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1170

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 48.0
tolerance degree : ± 4.0

control lever
position degree : 104.0
tolerance degree : ± 4.0

rack travel mm : 12.50
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1215
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 15.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 10.50

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.55
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 215
rack travel mm : 11.90
Tolerance mm : \pm 0.15

Pressure hPa : 365
rack travel mm : 12.85
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 207.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1095

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402648869

Injection pump
Pump designation : PE8P120A720LS7125
: -10
EP type number : 0412628891

Governor
Governor design. : RGV200...1050PA736
: -7
Governor no. : 0421813771

Cust. part No. : 1305137

Customer-spec. information
Customer : SCANIA
Motor : DS14

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1100

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : \pm 4.0

control lever
position degree : 99.0
tolerance degree : \pm 4.0

rack travel mm : 12.50
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1215
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 44.0
tolerance degree : \pm 4.0

control lever
position degree : 10.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 410
Tolerance 1/min : \pm 30

Rated speed rpm : 100
CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.55
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 215
rack travel mm : 12.00
Tolerance mm : \pm 0.15

Pressure hPa : 365
rack travel mm : 12.85
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1095

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402648883
Injection pump
Pump designation : PE8P120A720LS7125
: -10
EP type number : 0412628891
Governor
Governor design. : RQV300...900PA795
: -11
Governor no. : 0421813847
Cust. part No. : 1305129

Customer-spec. information
Customer : SCANIA
Motor : DS14 48M

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Tolerance l/h : ± 10.0
Test nozzle holder
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004

Test lines : 1680750015
Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.55
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.56
Tolerance mm : \pm 0.15

Rated speed rpm : 960
guide sleeve
travel mm : 8.18
Tolerance mm : \pm 0.20

Rated speed rpm : 688
guide sleeve
travel mm : 5.27
Tolerance mm : \pm 0.25

Rated speed rpm : 345

guide sleeve
travel mm : 2.04
Tolerance mm : \pm 0.25

Rated speed rpm : 395
guide sleeve
travel mm : 2.62
Tolerance mm : \pm 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 3.12
Tolerance mm : \pm 0.25

Rated speed rpm : 1190
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1035

Rack travel in mm : 12.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 47.0
tolerance degree : \pm 4.0

control lever
position degree : 105.0
tolerance degree : \pm 4.0

rack travel mm : 12.50
Rated speed rpm : 945
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1040
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : \pm 0.10

Rated speed rpm : 175
CRT mm min. : $>$ 6.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.55
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.35
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 215
rack travel mm : 12.00
Tolerance mm : \pm 0.15

Pressure hPa : 365
rack travel mm : 12.85
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 209.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113

Combination No. : 0402648891

Injection pump
Pump designation : PE8P120A720LS7189
: -10Q
EP type number : 0412628894

Governor
Governor design. : RQV200...950PA736-8
Governor no. : 0421813815

Cust. part No. : 1316120

Customer-spec. information
Customer : SCANIA
Motor : DSC14 08

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : ± 4.0

control lever
position degree : 94.0
tolerance degree : ± 4.0

rack travel mm : 11.30
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1105
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 45.0
tolerance degree : ± 4.0

control lever
position degree : 11.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 5.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.35
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.50
Tolerance mm : \pm 0.20

Pressure hPa : 525
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 206.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113
Combination No. : 0402648961
Injection pump
Pump designation : PE8P120A720LS7189
: -10
EP type number : 0412628893
Governor
Governor design. : RQV350...1050PA795
: -16
Governor no. : 0421814054
Cust. part No. : 1340522

Customer-spec. information
Customer : SCANIA
Motor : DSI1457M

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Tolerance l/h : ± 20.0
Test nozzle holder
assembly : 1688901104
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5
Test lines : 1680750008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8
Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 244.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Speed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0
2nd speed rpm	: 350
Rack travel in mm	: 4.60
Tolerance mm	: ± 0.30
Del. quantity cm ³ /1000 strokes	: 21.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Speed Tolerance cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1150
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 244.0
Tolerance cm ³ /1000 strokes	: ± 1.0

Check tolerance cm ³ /1000S.	: ± 4.0
Speed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

RATED SPEED

control lever position degree	: 47.0
tolerance degree	: ± 4.0
control lever position degree	: 105.0
tolerance degree	: ± 4.0
rack travel mm	: 12.20
Rated speed rpm	: 1095
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1210
Tolerance 1/min	: ± 15
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever position degree	: 73.0
tolerance degree	: ± 4.0
control lever position degree	: 15.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 4.60
Tolerance mm	: ± 0.10
Rated speed rpm	: 250
CRT mm min.	: > 7.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 325
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TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.50
Tolerance mm : \pm 0.20

Pressure hPa : 525
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 222.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113
Combination No. : 0402648962
Injection pump
Pump designation : PE8P120A720LS7189
: -10
EP type number : 0412628893
Governor
Governor design. : RQV300...900PA795
: -18
Governor no. : 0421814059
Cust. part No. : 1340520

Customer spec. information
Customer : SCANIA
Motor : D 14

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901104
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 300

Rack travel in mm : 4.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.60
Tolerance mm : ± 0.20

Rated speed rpm : 1045
guide sleeve
travel mm : 9.50
Tolerance mm : ± 0.20

Rated speed rpm : 350
guide sleeve
travel mm : 2.20
Tolerance mm : ± 0.30

Rated speed rpm : 650
guide sleeve
travel mm : 5.00
Tolerance mm : ± 0.30

Rated speed rpm : 950

guide sleeve
travel mm : 8.00
Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1280

Rack travel in mm : 12.00
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 46.0
tolerance degree : ± 4.0

control lever
position degree : 104.0
tolerance degree : ± 4.0

rack travel mm : 11.20
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1025
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.60
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 7.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 290

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.50
Tolerance mm : \pm 0.20

Pressure hPa : 525
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113

Combination No. : 0402648966

Injection pump
Pump designation : PE8P120A720LS7189
: -10
EP type number : 0412628893

Governor
Governor design. : RQV350...1050PA795
: -19
Governor no. : 0421814057

Cust. part No. : 1340523

Customer-spec. information
Customer : SCANIA
Motor : DSI1458M

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.65
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.44
Tolerance mm : \pm 0.20

Rated speed rpm : 1108
guide sleeve
travel mm : 8.05
Tolerance mm : \pm 0.15

Rated speed rpm : 781
guide sleeve
travel mm : 5.24
Tolerance mm : \pm 0.25

Rated speed rpm : 411
guide sleeve
travel mm : 2.06
Tolerance mm : \pm 0.25

Rated speed rpm : 461

guide sleeve
travel mm : 2.64
Tolerance mm : \pm 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.19
Tolerance mm : \pm 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1210

Rack travel in mm : 12.60
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 48.0
tolerance degree : \pm 4.0

control lever
position degree : 107.0
tolerance degree : \pm 4.0

rack travel mm : 12.60
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 1220
 Tolerance 1/min : + 15
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + 4.0
 control lever
 position degree : 15.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 4.60
 Tolerance mm : + 0.10

Rated speed rpm : 250
 CRT mm min. : > 7.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.65
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 430
 rack travel mm : 10.90
 Tolerance mm : + 0.20

Pressure hPa : 750
 rack travel mm : 12.65
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 230.0
 Tolerance
 cm³/1000 strokes : + 4.0
 Check tolerance
 cm³/1000S. : + 6.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 144.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.60
 Rated speed rpm : 1095
 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 10.00
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 160.0
 Tolerance
 cm³/1000 strokes : + 20.0
 Check tolerance
 cm³/1000S. : + 24.0

LOW IDLE

Del. quantity
 cm³/1000 strokes : 21.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113

Combination No. : 0402648973

Injection pump
Pump designation : PE8P120A320LS7873
EP type number : 0412628880

Governor
Governor design. : RQ300/950PA1121
Governor no. : 0421801701

Cust. part No. : 04221534KY0165-17

Customer-spec. information
Customer : KHD
Motor : BF8M1015/C
Power KW : 400.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 8- 7- 2- 6
 : - 5- 4- 3

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 15.35
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 380.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 5.00
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 20.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 2.23
Tolerance mm	: ± 0.10
Rated speed rpm	: 1001
guide sleeve	
travel mm	: 6.36
Tolerance mm	: ± 0.10
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10
Rated speed rpm	: 385
guide sleeve	
travel mm	: 5.22
Tolerance mm	: ± 0.10

Rated speed rpm	: 450
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10

Rated speed rpm	: 1150
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 700

Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 950
Aneroid pressure	
hPa	: 1600
Del. quantity	
cm ³ /1000 strokes	: 380.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 103.0
tolerance degree	: ± 4.0
rack travel mm	: 14.30
Rated speed rpm	: 995
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1070
Tolerance 1/min	: ± 15
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1150

LOW IDLE

control lever
position degree : 75.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 7.30

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.35
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1600
rack travel mm : 15.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.40
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 570
rack travel mm : 11.85
Tolerance mm : \pm 0.20

Pressure hPa : 1150
rack travel mm : 14.45
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.30
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.94
Test oil : ISO 4113
Combination No. : 0402648974
Injection pump
Pump designation : PE8P120A320LS7875
EP type number : 0412628881
Governor
Governor design. : RQ250/1150PA1122
Governor no. : 0421801704

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-8TC

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.20
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 16.00
Tolerance mm : ± 1.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 13.60
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 208.0

Tolerance	
cm3/1000 strokes	: \pm 1.0
Check tolerance	
cm3/1000S.	: \pm 4.0
Speed	
Tolerance	
cm3/1000 strokes	: 7.0
Check tolerance	
cm3/1000S.	: 10.0
2nd speed rpm	: 300
Rack travel in mm	: 5.80
Tolerance mm	: \pm 0.20
Del. quantity	
cm3/1000 strokes	: 18.0
Tolerance	
cm3/1000 strokes	: \pm 3.0
Check tolerance	
cm3/1000S.	: \pm 6.0
Speed	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 2.39
Tolerance mm	: \pm 0.10
Rated speed rpm	: 1207
guide sleeve	
travel mm	: 6.36
Tolerance mm	: \pm 0.10
Rated speed rpm	: 650
guide sleeve	
travel mm	: 6.00
Tolerance mm	: \pm 0.10
Rated speed rpm	: 382
guide sleeve	
travel mm	: 5.26
Tolerance mm	: \pm 0.10
Rated speed rpm	: 450
guide sleeve	
travel mm	: 6.00

Tolerance mm	: \pm 0.10
Rated speed rpm	: 1370
guide sleeve	
travel mm	: 11.50
Tolerance mm	: \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: -
Del. quantity	
cm3/1000 strokes	: 208.0
Tolerance	
cm3/1000 strokes	: \pm 1.0
Check tolerance	
cm3/1000S.	: \pm 4.0
Speed	
Tolerance	
cm3/1000 strokes	: 7.0
Check tolerance	
cm3/1000S.	: 10.0

RATED SPEED

control lever	
position degree	: 34.0
tolerance degree	: \pm 4.0
control lever	
position degree	: 95.0
tolerance degree	: \pm 4.0
rack travel mm	: 12.60
Rated speed rpm	: 1202
Tolerance 1/min	: \pm 8
rack travel mm	: 4.00
Rated speed rpm	: 1280
Tolerance 1/min	: \pm 15
rack travel mm	: 0.50
Tolerance mm	: \pm 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

control lever
position degree : 14.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 375
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 8.60

TORQUE CONTROL

Rated speed rpm : 650
rack travel mm : 13.60
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 12.50
Tolerance mm : ± 0.20

Pressure hPa : 250
rack travel mm : 10.00
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1202
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 203.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80

Tolerance mm	:	+-	0.20
Del. quantity			
cm ³ /1000 strokes	:		18.0
Tolerance			
cm ³ /1000 strokes	:	+-	3.0
Check tolerance			
cm ³ /1000S.	:	+-	6.0
Speed			
Tolerance			
cm ³ /1000 strokes	:		5.0
Check tolerance			
cm ³ /1000S.	:		8.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402678818

Injection pump
Pump designation : PE8P120A720LS7189
: -10
EP type number : 0412628893

Governor
Governor design. : RSV350...1050P1A512
: -4
Governor no. : 0421833384

Cust. part No. : 1340526

Customer-spec. information
Customer : SCANIA
Motor : D 14

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 350

Rack travel in mm : 4.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : ± 4.0

control lever
position degree : 113.0
tolerance degree : ± 4.0

rack travel mm : 11.20
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 80.0
tolerance degree : ± 4.0

control lever
position degree : 30.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.10

Testing:

Rated speed rpm : 350
rack travel mm : 4.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 475
Tolerance 1/min : ± 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.50
Tolerance mm : \pm 0.20

Pressure hPa : 525
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 199.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113

Combination No. : 0402735809

Injection pump
Pump designation : PES5P120A720/3LS7310
EP type number : 0412725817

Governor
Governor design. : RQ325/1000PA1106
Governor no. : 0421801698

Cust. part No. : 3-7302

Customer-spec. information
Customer : MAN
Motor : D2865LUH05
Power KW : 198.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5
S.o.d. blocking
Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 4.80
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 35.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.70
Tolerance mm : \pm 0.10

Rated speed rpm : 1059
guide sleeve
travel mm : 7.62
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 7.30
Tolerance mm : \pm 0.10

Rated speed rpm : 769
guide sleeve
travel mm : 7.08
Tolerance mm : \pm 0.10

Rated speed rpm : 399
guide sleeve
travel mm : 4.44
Tolerance mm : \pm 0.10

Rated speed rpm : 530
guide sleeve
travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 802
guide sleeve
travel mm : 7.23
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 15.50
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 103.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : \pm 8

rack travel mm : 4.00

Rated speed rpm : 1130
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 11.50
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.00
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.50
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 250
rack travel mm : 9.20
Tolerance mm : \pm 0.05

Pressure hPa : 2000
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Pressure hPa : 1150
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Pressure hPa : 600
rack travel mm : 10.95
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 266.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 75.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113
Combination No. : 0402735815
Injection pump
Pump designation : PES5P120A720/3LS7310
: -1
EP type number : 0412725820
Governor
Governor design. : RQ325/1000PA1106
Governor no. : 0421801698
Cust. part No. : 51.11103-7350

Customer-spec. information
Customer : MAN
Motor : D2865LUH05
Power kW : 198.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Overflow quantity
min. l/h : 115
Tolerance l/h : ± 20.0
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.15
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 12.80
Tolerance mm : ± 0.50
Firing order : 1- 3- 5- 4- 2
Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5
S.o.d. blocking
Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550
Rack travel in mm : 11.50

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 4.80

Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 35.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.49
Tolerance mm : \pm 0.10

Rated speed rpm : 1059
guide sleeve
travel mm : 7.34
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 7.01
Tolerance mm : \pm 0.10

Rated speed rpm : 777
guide sleeve
travel mm : 7.01
Tolerance mm : \pm 0.10

Rated speed rpm : 399
guide sleeve
travel mm : 4.24
Tolerance mm : \pm 0.10

Rated speed rpm : 540
guide sleeve
travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 15.50
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 103.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1130
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50

Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 11.50
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.00
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.50
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 250
rack travel mm : 9.20
Tolerance mm : \pm 0.05
Pressure hPa : 2000

rack travel mm : 13.00
Tolerance mm : \pm 0.05

Pressure hPa : 1150
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Pressure hPa : 600
rack travel mm : 10.95
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 266.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 75.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.12.94
Test oil : ISO 4113

Combination No. : 0402746883

Injection pump
Pump designation : PES6P110A320RS7198
EP type number : 0412716802

Governor
Governor design. : RQV275...1250PA942K
Governor no. : 0421815234

Cust. part No. : CCEP 5097A

Customer-spec. information

Customer : RVI
Motor : MIDR 06.02.26 L
Power KW : 132.5

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.58
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.65
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.5

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

2nd speed rpm : 275

Rack travel in mm : -9.50
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 19.5

Tolerance
cm³/1000 strokes : \pm 2.5

Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1385

Rack travel in mm : 13.60
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.5

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 114.0
tolerance degree : \pm 4.0

rack travel mm : -1.00
Rated speed rpm : 1320
Tolerance 1/min : \pm 5

rack travel mm : -10.65
Rated speed rpm : 1490
Tolerance 1/min : \pm 15

rack travel mm : -14.15
Tolerance mm : \pm 0.55
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 62.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 200

CRT mm max. : < -8.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 750
rack travel mm : -0.80
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : -5.60

Tolerance mm : \pm 0.10
 Rated speed rpm : 750
 rack travel mm : -8.00
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
 Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 1250
 rack travel mm : -3.40
 Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 220
 rack travel mm : -2.60
 Tolerance mm : \pm 0.20

Pressure hPa : 360
 rack travel mm : -1.75
 Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 150
 Check
 speed 1/min : > 130
 Rated speed rpm : < 200
 Check
 speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 127.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 750

Del. quantity
 cm³/1000 strokes : 62.0
 Tolerance
 cm³/1000 strokes : \pm 5.0
 Check tolerance
 cm³/1000S. : \pm 8.0
 Speed
 Tolerance
 cm³/1000 strokes : 8.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 39.0
 Tolerance
 cm³/1000 strokes : \pm 5.0
 Check tolerance
 cm³/1000S. : \pm 8.0
 Speed
 Tolerance
 cm³/1000 strokes : 8.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 68.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.5

BREAKAWAY

Rack travel in mm : -1.00
 Rated speed rpm : 1320
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 100.0
 Tolerance
 cm³/1000 strokes : \pm 15.0
 Check tolerance
 cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 275
 rack travel mm : -9.50

Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 19.5
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.12.94
Test oil : ISO 4113

Combination No. : 0402746949

Injection pump
Pump designation : PES6P120A720RS7224
: -2
EP type number : 0412726893

Governor
Governor design. : RQV275...1100PA975
: -3K
Governor no. : 0421815350

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8460.41.406

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 140
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 5.50
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.90
Tolerance mm : \pm 0.10

Rated speed rpm : 1145
guide sleeve
travel mm : 10.40
Tolerance mm : \pm 0.10

Rated speed rpm : 750
guide sleeve
travel mm : 6.10
Tolerance mm : \pm 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 3.60
Tolerance mm : \pm 0.25

Rated speed rpm : 1360

guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1140

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 75.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 335

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.50
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500
rack travel mm : 7.70
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 7.70

Tolerance mm : \pm 0.20

Rated speed rpm : 900

Pressure hPa : 410
rack travel mm : 8.80
Tolerance mm : \pm 0.20

Pressure hPa : 750
rack travel mm : 11.35
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 170

Check
speed 1/min : $>$ 150
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 243.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.70

Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000s. : \pm 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.94
Test oil : ISO 4113

Combination No. : 0402846054

Injection pump
Pump designation : PE6P120A320RS8017
EP type number : 0412826018

Governor
Governor design. : RQV300...1100PA1017
: -1
Governor no. : 0421814023

Cust. part No. : 865811-P02

Customer-spec. information
Customer : PENTA
Motor : TWD 1030 ME
Power KW : 212.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.19
Tolerance mm : + 0.25

Rated speed rpm : 1137
guide sleeve
travel mm : 8.19
Tolerance mm : + 0.25

Rated speed rpm : 816
guide sleeve
travel mm : 5.27
Tolerance mm : + 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 1.98
Tolerance mm : + 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.45
Tolerance mm : + 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 3.11
Tolerance mm : + 0.25

Rated speed rpm : 1400
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1250

Rack travel in mm : 10.00
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 58.0
tolerance degree : + 4.0

control lever
position degree : 114.0
tolerance degree : + 4.0

rack travel mm : 10.05
Rated speed rpm : 1125
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

control lever
position degree : 15.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.30
Tolerance mm : \pm 0.30

Rated speed rpm : 100

CRT mm min. : > 6.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 330

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 11.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 780
rack travel mm : 2.90
Tolerance mm : \pm 0.10

Pressure hPa : 310
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.05
Rated speed rpm : 1125
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113

Combination No. : 0402946011

Injection pump
Pump designation : PES6P120A320RS8028
EP type number : 0412926021

Governor
Governor design. : RQV275...1250PA1125K
Governor no. : 0421815981

Cust. part No. : CCEP 5140A 66-205

Customer-spec. information
Customer : RVI
Motor : MIDR 06.02.26L51
Power KW : 132.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.
mm : 10.00

and maximum rack
travel : 21.00

Difference ° CS : 2.25

Tolerance : ± 0.75

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm	:	1250
<hr/>		
Rack travel in mm	:	12.60
Tolerance mm	:	± 0.05
<hr/>		
Del. quantity cm ³ /1000 strokes	:	169.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	± 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance cm ³ /1000S.	:	9.0
<hr/>		
2nd speed rpm	:	325
<hr/>		
Rack travel in mm	:	-6.60
Tolerance mm	:	± 0.20
Del. quantity cm ³ /1000 strokes	:	40.0
Tolerance cm ³ /1000 strokes	:	± 2.0
Check tolerance cm ³ /1000S.	:	± 6.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	275
guide sleeve travel mm	:	1.00
Tolerance mm	:	± 0.15
<hr/>		
Rated speed rpm	:	1355
guide sleeve travel mm	:	10.10
Tolerance mm	:	± 0.10
<hr/>		
Rated speed rpm	:	929
guide sleeve travel mm	:	6.80
Tolerance mm	:	± 0.20

Rated speed rpm	:	390
guide sleeve travel mm	:	2.39
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	440
guide sleeve travel mm	:	3.01
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	550
guide sleeve travel mm	:	3.92
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	1650
guide sleeve travel mm	:	13.50
Tolerance mm	:	± 0.50

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1430
<hr/>		
Rack travel in mm	:	10.90
Tolerance mm	:	± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
Aneroid pressure hPa	:	1600
Del. quantity cm ³ /1000 strokes	:	169.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 4.0
Spreed Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	296.0
tolerance degree	:	± 4.0
<hr/>		
rack travel mm	:	-1.00
Rated speed rpm	:	1335
Tolerance 1/min	:	± 5

rack travel mm : -8.60
Rated speed rpm : 1460
Tolerance 1/min : \pm 15

rack travel mm : -12.10
Tolerance mm : \pm 0.55
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 244.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : -6.60
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm max. : $<$ -5.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1250
Rated speed rpm : 650
rack travel mm : -1.10
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : -1.70
Tolerance mm : \pm 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1600
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

rack travel mm : -4.20
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 200
rack travel mm : -3.60
Tolerance mm : \pm 0.20

Pressure hPa : 360
rack travel mm : -2.50
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 150
Check
speed 1/min : $>$ 130
Rated speed rpm : $<$ 215
Check
speed 1/min : $<$ 235

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 181.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1335
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 122.0

Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : -6.60
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113

Combination No. : 0402946013

Injection pump
Pump designation : PES6P120A320RS8028
EP type number : 0412926021

Governor
Governor design. : RQV275...1250PA1189K
Governor no. : 0421815974

Cust. part No. : CCEP 5146 66-220

Customer-spec. information
Customer : RVI
Motor : MIDR 06.02.26Y41
Power KW : 184.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 277.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : -7.90
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 36.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.10
Tolerance mm : \pm 0.25

Rated speed rpm : 1332
guide sleeve
travel mm : 10.07
Tolerance mm : \pm 0.25

Rated speed rpm : 912
guide sleeve
travel mm : 6.79
Tolerance mm : \pm 0.25

Rated speed rpm : 412
guide sleeve
travel mm : 2.53
Tolerance mm : \pm 0.25

Rated speed rpm : 462

guide sleeve
travel mm : 3.16
Tolerance mm : \pm 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 3.97
Tolerance mm : \pm 0.25

Rated speed rpm : 1630
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1420

Rack travel in mm : 13.50
Tolerance mm : \pm 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 277.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 299.0
tolerance degree : \pm 4.0

rack travel mm : -1.00
Rated speed rpm : 1320
Tolerance 1/min : \pm 5

rack travel mm : -10.40
Rated speed rpm : 1475
Tolerance 1/min : \pm 15

rack travel mm : -13.90

Tolerance mm : ± 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 254.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.90
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm max. : < -7.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650
rack travel mm : -1.10
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : -2.80
Tolerance mm : ± 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1600
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.50
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 410

rack travel mm : -3.80
Tolerance mm : ± 0.20

Pressure hPa : 560
rack travel mm : -2.70
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 130

Check
speed 1/min : > 110

Rated speed rpm : < 225

Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1320
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 36.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113
Combination No. : 0403244043
Injection pump
Pump designation : PES4MW100/720RS1519
: -2
EP type number : 0413204017
Governor
Governor design. : RQV300...1300MW132
: -6
Governor no. : 0420083309
Cust. part No. : 0240744102

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power kW : 103.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

G05

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve
travel mm : 0.91

Tolerance mm : \pm 0.25

Rated speed rpm : 1354

guide sleeve
travel mm : 7.77

Tolerance mm : \pm 0.25

Rated speed rpm : 1140

guide sleeve
travel mm : 5.88

Tolerance mm : \pm 0.25

Rated speed rpm : 629

guide sleeve
travel mm : 3.15

Tolerance mm : \pm 0.25

Rated speed rpm : 679

guide sleeve
travel mm : 3.53

Tolerance mm : \pm 0.25

Rated speed rpm : 800

guide sleeve
travel mm : 4.00

Tolerance mm : \pm 0.25

Rated speed rpm : 1596

guide sleeve
travel mm : 12.00

Tolerance mm : \pm 0.25

Rated speed rpm : 1690

guide sleeve
travel mm : 13.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1

Rated speed rpm : 1510

Rack travel in mm : 16.50

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 114.0

tolerance degree : \pm 4.0

rack travel mm : 12.90

Rated speed rpm : 1345

Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 1465

Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50

Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 72.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.90
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 2.00
Tolerance mm : \pm 0.10

Pressure hPa : 350
rack travel mm : 0.50
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 200

Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 67.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.12.94
Test oil : ISO 4113
Combination No. : 0403246039
Injection pump
Pump designation : PES6MW100/72ORS1517
: -3
EP type number : 0413206020
Governor
Governor design. : RQV300...1300MW145
Governor no. : 0420083317
Cust. part No. : 0250745402

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 96.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : ± 0.25

Rated speed rpm : 1353
guide sleeve
travel mm : 6.70
Tolerance mm : ± 0.25

Rated speed rpm : 1090
guide sleeve
travel mm : 4.70
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : ± 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.54
Tolerance mm : ± 0.25

Rated speed rpm : 690
guide sleeve
travel mm : 2.97
Tolerance mm : ± 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 10.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 96.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 100.0
tolerance degree : ± 4.0

rack travel mm : 10.20
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1460
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 55.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.20

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.25
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.25
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.25
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 1.15
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 0.45
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220

Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 87.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 57.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113
Combination No. : 0403486106
Injection pump
Pump designation : PES6MW100/321RS1232
EP type number : 0413406226
Governor
Governor design. : RSV300...1150MW0A343
: -2
Governor no. : 0420085210
Cust. part No. : 3-7262

Customer-spec. information
Customer : MAN
Motor : D0826LE 523
Power KW : 154.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1125

Rack travel in mm : 13.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 163.0

Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: + 4.0
Spreed Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000S.	: 7.5
Del. quantity cm3/1000 strokes	: 15.0
Tolerance cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000S.	: + 4.5
Spreed Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1000S.	: 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
governor spring pre-tension click setting x	: 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1125
Aneroid pressure hPa	: 1200
Del. quantity cm3/1000 strokes	: 163.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: + 4.0
Spreed	

Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000S.	: 7.5

RATED SPEED

control lever position degree	: 104.0
tolerance degree	: + 4.0
rack travel mm	: 12.15
Rated speed rpm	: 1180
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1280
Tolerance 1/min	: + 15
rack travel mm	: 1.00
Tolerance mm	: + 0.70
Rated speed rpm	: 1400

LOW IDLE

control lever position degree	: 77.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 5.50
Tolerance mm	: + 0.10
rack travel mm	: 2.00
Rated speed rpm	: 100
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1125
rack travel mm	: 13.15
Tolerance mm	: + 0.05
Rated speed rpm	: 925
rack travel mm	: 13.50
Tolerance mm	: + 0.10
Rated speed rpm	: 600
rack travel mm	: 13.50
Tolerance mm	: + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.50
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.45
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 750
rack travel mm : 12.35
Tolerance mm : \pm 0.15

Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 925
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 163.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 76.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.15
Rated speed rpm : 1180
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.94
Test oil : ISO 4113

Combination No. : 0401846900

Injection pump
Pump designation : PE6P120A320RS3240
EP type number : 0411826786

Governor
Governor design. : RQV250...1025PA921
: -16
Governor no. : 0421813799

Cust. part No. : 478378-P02

Customer-spec. information
Customer : VOLVO-TRUCK
Motor : TD122FL
Power KW : 298.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2457413046

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.65
Tolerance mm : ± 0.05

Del. quantity	<hr/>	
cm ³ /1000 strokes :	252.0	
Tolerance	<hr/>	
cm ³ /1000 strokes :	+ 1.0	
Check tolerance	<hr/>	
cm ³ /1000S. :	+ 4.0	
Speed	<hr/>	
Tolerance	<hr/>	
cm ³ /1000 strokes :	5.0	
Check tolerance	<hr/>	
cm ³ /1000S. :	9.0	

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever		
position degree :	- 1	
Rated speed rpm :	1100	
Rack travel in mm :	16.50	
Tolerance mm :	+ 1.30	

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	1200
Del. quantity	
cm ³ /1000 strokes :	252.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 4.0
Speed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S. :	9.0

RATED SPEED

control lever		
position degree :	65.0	
tolerance degree :	+ 4.0	

control lever		
position degree :	120.0	
tolerance degree :	+ 4.0	

rack travel mm :	12.65
Rated speed rpm :	1070
Tolerance 1/min :	+ 5

rack travel mm :	4.00
Rated speed rpm :	1155
Tolerance 1/min :	+ 15

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1250

LOW IDLE

control lever		
position degree :	64.0	
tolerance degree :	+ 4.0	

control lever		
position degree :	9.0	
tolerance degree :	+ 4.0	

Testing:

Rated speed rpm :	250
rack travel mm :	6.60
Tolerance mm :	+ 0.10

Rated speed rpm :	100
CRT mm min. :	> 8.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm :	315
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ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm :	500
Pressure hPa :	1200
rack travel mm :	13.65
Tolerance mm :	+ 0.05

MEASUREMENT

Pressure hPa :	-
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Rated speed rpm : 500
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 780
rack travel mm : 3.30
Tolerance mm : \pm 0.10

Pressure hPa : 90
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.65
Rated speed rpm : 1070
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.01.95
Test oil : ISO 4113

Combination No. : 0402046855

Injection pump
Pump designation : PE6P110A320RS3329
EP type number : 0412016743

Governor
Governor design. : RQV325...1300PA1119
Governor no. : 0421814083

Cust. part No. : 1284418/3

Customer-spec. information
Customer : DAF
Motor : NS156M
Power KW : 156.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 144.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

2nd speed rpm : 325

Rack travel in mm : 5.20
Tolerance mm : \pm 0.10

Del. quantity
cm3/1000 strokes : 26.0

Tolerance
cm3/1000 strokes : \pm 2.5

Check tolerance
cm3/1000S. : \pm 5.0

Spreed
Tolerance
cm3/1000 strokes : 4.5

Check tolerance
cm3/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.33
Tolerance mm : \pm 0.15

Rated speed rpm : 1353
guide sleeve
travel mm : 8.29
Tolerance mm : \pm 0.20

Rated speed rpm : 900
guide sleeve
travel mm : 4.92
Tolerance mm : \pm 0.25

Rated speed rpm : 405
guide sleeve
travel mm : 2.07
Tolerance mm : \pm 0.25

Rated speed rpm : 455
guide sleeve
travel mm : 2.52
Tolerance mm : \pm 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 2.93
Tolerance mm : \pm 0.25

Rated speed rpm : 1640
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1450

Rack travel in mm : 10.80
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000
Del. quantity
cm3/1000 strokes : 144.0
Tolerance
cm3/1000 strokes : \pm 1.0
Check tolerance
cm3/1000S. : \pm 4.0

Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 7.5

RATED SPEED

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 10.85
Rated speed rpm : 1342
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1460
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 83.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 225
CRT mm min. : $>$ 6.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : \pm 0.05

Rated speed rpm : 1300
rack travel mm : 11.85
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 7.35
Tolerance mm : \pm 0.20

Rated speed rpm : 600

Pressure hPa : 370
rack travel mm : 10.75
Tolerance mm : \pm 0.05

Pressure hPa : 200
rack travel mm : 8.40
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 98.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.5

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1342
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.01.95
Test oil : ISO 4113
Combination No. : 0402646654
Injection pump
Pump designation : PE6P120A320RS7360Z
EP type number : 0412626937

Governor
Governor design. : RQ275/1150PA1193
Governor no. : 0421801752

Cust. part No. : 1285911/2

Customer-spec. information
Customer : DAF
Motor : GS 160 M
Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.40
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 150.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 4.90
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.92
Tolerance mm : \pm 0.10

Rated speed rpm : 1206
guide sleeve
travel mm : 6.49
Tolerance mm : \pm 0.10

Rated speed rpm : 1150
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 351
guide sleeve
travel mm : 4.25
Tolerance mm : \pm 0.10

Rated speed rpm : 440
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1360
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

control lever
position degree : \sim 1
Rated speed rpm : 550

Rack travel in mm : 15.80
Tolerance mm : \pm 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 150.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 9.40
Rated speed rpm : 1202
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : \pm 15

rack travel mm : 0.70
Tolerance mm : \pm 0.70
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

Rated speed rpm : 175

CRT mm min. : $>$ 7.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.40
Tolerance mm : \pm 0.05

Rated speed rpm : 1150
rack travel mm : 10.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 10.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 9.50
Tolerance mm : \pm 0.10

Rated speed rpm : 600

Pressure hPa : 290
rack travel mm : 10.15
Tolerance mm : \pm 0.05

Pressure hPa : 250
rack travel mm : 9.80
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 131.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.40
Rated speed rpm : 1202
Tolerance 1/min : \pm 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.01.95
Test oil : ISO 4113

Combination No. : 0402676818

Injection pump
Pump designation : PE6P120A320RS7326
EP type number : 0412626915

Governor
Governor design. : RSV275...1000P1A573
Governor no. : 0421833429

Cust. part No. : 1265070/3

Customer-spec. information
Customer : DAF
Motor : WS 268 L AG
Power KW : 268.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 14.95
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 6.20
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 107.0
tolerance degree : \pm 4.0

rack travel mm : 13.95
Rated speed rpm : 1032
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1250

rack travel mm : 4.00
Rated speed rpm : 1110

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 275
rack travel mm : 4.50

Testing:

Rated speed rpm : 275
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 14.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 14.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 14.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 12.40
Tolerance mm : \pm 0.10

Rated speed rpm : 600

Pressure hPa : 490
rack travel mm : 14.25
Tolerance mm : \pm 0.05

Pressure hPa : 280
rack travel mm : 12.90
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.95

Rated speed rpm : 1032
Tolerance 1/min : \pm 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 6.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402036749

Injection pump
Pump designation : PES6P110A120RS3286
EP type number : 0412016737

Governor
Governor design. : RQV350...1150PA1014
 : -2K
Governor no. : 0421815296

Cust. part No. : 3921971

Customer-spec. information
Customer : CUMMINS
Motor : 6CTA-A
Power KW : 168.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.45

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 154.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 112.0
tolerance degree : \pm 4.0

control lever
position degree : 59.0
tolerance degree : \pm 4.0

rack travel mm : 14.20
Rated speed rpm : 1220
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1395
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 16.0
tolerance degree : \pm 4.0

control lever
position degree : 69.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 275
CRT mm min. : > 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.45
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.30
Tolerance mm : \pm 0.20

Rated speed rpm : 1150
rack travel mm : 15.30
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 14.10
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 15.45
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 1100
Pressure hPa : 600
rack travel mm : 13.80
Tolerance mm : \pm 0.20
Pressure hPa : 290
rack travel mm : 10.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 156.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 76.5
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1220
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402036750

Injection pump
Pump designation : PES6P110A120RS3286
EP type number : 0412016737

Governor
Governor design. : RQV350...1150PA1014
: -3K
Governor no. : 0421815298

Cust. part No. : 3921972

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 156.5

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05

Test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.65

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 144.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 144.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 109.0
tolerance degree : \pm 4.0

control lever
position degree : 56.0
tolerance degree : \pm 4.0

rack travel mm : 13.40
Rated speed rpm : 1225
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1380
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 14.0
tolerance degree : \pm 4.0

control lever
position degree : 67.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 275

CRT mm min. : > 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 435

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.65
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1150
rack travel mm : 14.50
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 13.40
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 14.65
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 1100
Pressure hPa : 600
rack travel mm : 13.80
Tolerance mm : \pm 0.20
Pressure hPa : 290
rack travel mm : 10.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 76.5
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1225
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402036751
Injection pump
Pump designation : PES6P110A120RS3286
EP type number : 0412016737
Governor
Governor design. : RQV350...1200PA1014
: -4K
Governor no. : 0421815299
Cust. part No. : 3921973

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 156.5

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 14.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 142.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 142.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 58.0
tolerance degree : ± 4.0

rack travel mm : 13.30
Rated speed rpm : 1275
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1415

H08

Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.90
Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 435

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.55
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : ± 0.10

Rated speed rpm : 1150
rack travel mm : 14.40
Tolerance mm : ± 0.10

Rated speed rpm : 650
rack travel mm : 13.30
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 14.55
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.10
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 475
rack travel mm : 13.20
Tolerance mm : \pm 0.20

Pressure hPa : 215
rack travel mm : 10.45
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 290
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 76.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.30

Rated speed rpm : 1275
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.01.95
Test oil : ISO 4113
Combination No. : 0402618805
Injection pump
Pump designation : PE8P130A900/5LS7841
: -1
EP type number : 0412638807
Governor
Governor design. :
Governor no. :
Cust. part No. :

Customer-spec. information
Customer : IVECO-AIFO
Motor : 8281 SRI 27.00

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413076
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1680750075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 12.00
Tolerance mm : ± 0.50
Firing order : 1- 8- 4- 3- 6
: - 5- 7- 2
Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 550
Rack travel in mm : 10.55
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 215.0

Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0
2nd speed rpm	: 300
Rack travel in mm	: 4.20
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 25.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 215.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

TORQUE CONTROL

Rated speed rpm	: 550
rack travel mm	: 10.55

Tolerance mm	: ± 0.05
Rated speed rpm	: 950
rack travel mm	: 10.50
Tolerance mm	: ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: -
Rated speed rpm	: 950
Del. quantity	
cm ³ /1000 strokes	: 217.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0

STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 21.00
Tolerance mm	: ± 0.50
Del. quantity	
cm ³ /1000 strokes	: 165.0
Tolerance	
cm ³ /1000 strokes	: ± 15.0
Check tolerance	
cm ³ /1000S.	: ± 19.0

LOW IDLE

Rated speed rpm	: 300
rack travel mm	: 4.20
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 25.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.01.95
Test oil : ISO 4113
Combination No. : 0402646658
Injection pump
Pump designation : PE6P130A720RS7371
EP type number : 0412636837
Governor
Governor design. : RQV250...900PA1215
Governor no. : 0421814139
Cust. part No. : 3825482
: -P01 11.01.95

Customer-spec. information
Customer : PENTA
Motor : TAMD 163 A
Power KW : 405.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1457413010
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 4688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

H12

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.35
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 7.80
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 13.20
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 379.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.12
Tolerance mm : ± 0.25

Rated speed rpm : 959
guide sleeve
travel mm : 8.22
Tolerance mm : ± 0.25

Rated speed rpm : 315
guide sleeve
travel mm : 1.98
Tolerance mm : ± 0.25

Rated speed rpm : 365
guide sleeve
travel mm : 2.47
Tolerance mm : ± 0.25

Rated speed rpm : 650
guide sleeve
travel mm : 4.40
Tolerance mm : ± 0.25

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1030

Rack travel in mm : 11.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 379.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

RATED SPEED

control lever
position degree : 64.0
tolerance degree : ± 4.0

control lever
position degree : 119.0
tolerance degree : ± 4.0

rack travel mm : 12.20
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1030
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1120

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 17.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.70
Tolerance mm : ± 0.20

Rated speed rpm : 150
CRT mm min. : > 8.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.20
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 6.10
Tolerance mm : ± 0.15

Pressure hPa : 170
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 406.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 5.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 945
Tolerance 1/min : ± 5

LOW IDLE

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Note remarks

Edition : 13.01.95
Test oil : ISO 4113

Injection pump
Pump designation : PE6P120A720RS7126
: -10Y
EP type number : 0412626930

Governor
Governor design. : RQV200...1000PA725
: -6
Governor no. : 0421813755

Customer-spec. information
Customer : SCANIA
Motor : DSC11 30

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Inlet press. bar : 1.5

Opening pressure : 208.5
Tolerance bar : ± 1.5

Outside diameter : 6.0

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

Test pressure bar : 31.0
Tolerance bar : \pm 1.0

test only : +- 0.10

Firing order : 1- 5- 3- 6- 2-
: 4

```
Phasing      : 0-60-120-180-240
              : -300
Tolerance    : +- 0.30
Check
tolerance °NW : +- 0.75
```

Time to cyl. no. : 1

Rated speed rpm : 700

Rack travel in mm : 14.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 246.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 225

Rack travel in mm : 4.80
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1170

Rack travel in mm : 9.00
Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 246.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : ± 4.0

control lever
position degree : 117.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 65.0
tolerance degree : ± 4.0

control lever
position degree : 8.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 4.80
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 6.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 14.45
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.45
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 11.30
Tolerance mm : \pm 0.15

Pressure hPa : 470
rack travel mm : 12.20
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 225
rack travel mm : 4.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.12.94
Test oil : ISO 4113

Combination No. : 0402676822

Injection pump
Pump designation : PE6P120A320RS7365
EP type number : 0412626940

Governor
Governor design. : RSV300...850P4A594
Governor no. : 0421833460

Cust. part No. : 11031890 P02 950103

Customer-spec. information
Customer : VME
Motor : TD 122 KKE
Power KW : 220.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Del. quantity
cm³/1000 strokes : 45.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 254.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 56.0
tolerance degree : \pm 4.0

control lever
position degree : 106.0
tolerance degree : \pm 4.0

rack travel mm : 8.40
Rated speed rpm : 870
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 930
Tolerance 1/min : \pm 15

rack travel mm : 0.80
Tolerance mm : \pm 0.50
Rated speed rpm : 1070

LOW IDLE

tolerance degree : \pm 4.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 330

Testing:

Rated speed rpm : 330
Tolerance mm : \pm 0.20

rack travel mm : 2.00
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 8.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 9.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 2.00
Tolerance mm : \pm 0.20

Pressure hPa : 260
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 251.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 9.0
Check tolerance
cm³/1000S. : 13.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 870
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 45.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.01.95
Test oil : ISO 4113

Combination No. : 0402735811

Injection pump
Pump designation : PES5P120A720/3LS7348
EP type number : 0412725818

Governor
Governor design. : RQ325/1000PA1106-2
Governor no. : 0421801750

Cust. part No. : 3-7392

Customer-spec. information
Customer : MAN
Motor : D2865LUH06
Power KW : 191.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5
S.o.d. blocking
Barrel no. : 5

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.10
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 261.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

2nd speed rpm : 325

Rack travel in mm : 4.90
Tolerance mm : \pm 0.20

Del. quantity
cm3/1000 strokes : 43.0

Tolerance
cm3/1000 strokes : \pm 3.0

Check tolerance
cm3/1000S. : \pm 6.0

Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.50
Tolerance mm : \pm 0.10

Rated speed rpm : 1059
guide sleeve
travel mm : 7.34
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 401
guide sleeve
travel mm : 4.29
Tolerance mm : \pm 0.10

Rated speed rpm : 530

guide sleeve
travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 15.50
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : 2000

Del. quantity
cm3/1000 strokes : 261.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

RATED SPEED

control lever
position degree : 100.0
tolerance degree : \pm 4.0

rack travel mm : 11.10
Rated speed rpm : 1053
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1130
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.90
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 8.00

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 12.10
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 12.10
Tolerance mm : \pm 0.10

Rated speed rpm : 550
rack travel mm : 10.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 750
rack travel mm : 10.80
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 250
rack travel mm : 8.75
Tolerance mm : \pm 0.05

Pressure hPa : 2000
rack travel mm : 12.10
Tolerance mm : \pm 0.05

Pressure hPa : 1000
rack travel mm : 11.05

Tolerance mm : \pm 0.10

Pressure hPa : 500
rack travel mm : 10.40
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 241.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 750
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1053
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.35
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 43.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736803

Injection pump
Pump designation : PES6P110A120RS7187
EP type number : 0412716801

Governor
Governor design. : RGV350...1100PA924
: -3K
Governor no. : 0421815228

Cust. part No. :

Customer-spec. information
Customer : CDC
Motor : 6CTA

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413047

Overflow quantity
min. l/h : 165
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 138.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1230

Rack travel in mm : 9.00
Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : + 4.0

rack travel mm : 9.40
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1215
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 15.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : + 0.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.45
Tolerance mm : + 0.05

Rated speed rpm : 900
rack travel mm : 10.20
Tolerance mm : + 0.10

Rated speed rpm : 650
rack travel mm : 4.95
Tolerance mm : + 4.95

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 900
rack travel mm : 10.45
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 6.90
Tolerance mm : + 0.20

Rated speed rpm : 1100
Pressure hPa : 330
rack travel mm : 8.60
Tolerance mm : \pm 0.20

Pressure hPa : 200
rack travel mm : 7.45
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.40
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736805

Injection pump
Pump designation : PES6P120A120RS7206
EP type number : 0412726835

Governor
Governor design. : RQV350...1100PA924
: -5K
Governor no. : 0421815250

Cust. part No. : 3281182

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Overflow quantity
min. l/h : 165
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 159.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1420

Rack travel in mm : 9.00
Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 115.0
tolerance degree : + 4.0

rack travel mm : 11.10
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.30
Tolerance mm : + 0.10

Rated speed rpm : 250
CRT mm min. : > 6.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 450

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.15
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 11.20
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 11.80
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 12.15
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.20
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 300
rack travel mm : 8.90
Tolerance mm : \pm 0.20

Pressure hPa : 600
rack travel mm : 11.20
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736810

Injection pump
Pump designation : PES6P110A12ORS7213
EP type number : 0412716804

Governor
Governor design. : RQV400...1250PA964
: -2K
Governor no. : 0421815254

Cust. part No. : 3921777

Customer-spec. information
Customer : CDC
Motor : 68TA-A
Power KW : 141.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.85
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 161.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 36.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 13.80
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 161.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : \pm 4.0

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 13.80
Rated speed rpm : 1300
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 275

CRT mm min. : $>$ 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 14.85
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200
rack travel mm : 14.85
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 1250

Pressure hPa : 690
rack travel mm : 13.40
Tolerance mm : \pm 0.20

Pressure hPa : 365
rack travel mm : 10.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 290
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 97.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1300
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 36.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736811

Injection pump
Pump designation : PES6P110A12ORS7213
EP type number : 0412716804

Governor
Governor design. : RQV400...1250PA964
: -3K
Governor no. : 0421815255

Cust. part No. : 3921776

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 147.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.85

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 159.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 159.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : \pm 4.0

rack travel mm : 13.80
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 16.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 5.60
Tolerance mm : \pm 0.10

Rated speed rpm : 275
CRT mm min. : > 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 14.85
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200
rack travel mm : 14.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 8.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1250
Pressure hPa : 755
rack travel mm : 13.90
Tolerance mm : \pm 0.20

Pressure hPa : 410
rack travel mm : 10.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 159.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 92.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.40
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736812

Injection pump
Pump designation : PES6P110A120RS7214
EP type number : 0412716805

Governor
Governor design. : RQV350...1200PA964
: -4K
Governor no. : 0421815256

Cust. part No. : 3921774

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 156.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.35
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 148.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1260

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 148.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 11.30
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1380
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 275
CRT mm min. : $>$ 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 11.10
Tolerance mm : \pm 0.20

Rated speed rpm : 550
rack travel mm : 11.00
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 12.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1200
rack travel mm : 7.90
Tolerance mm : \pm 0.20

Rated speed rpm : 1200

Pressure hPa : 575
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Pressure hPa : 225
rack travel mm : 8.95
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 290
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 88.5
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736823

Injection pump
Pump designation : PES6P110A120RS7249
EP type number : 0412716807

Governor
Governor design. : RQV350...1150PA964
: -9K
Governor no. : 0421815295

Cust. part No. : 3921970

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 187.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 5.0

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.35
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 179.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 179.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 65.0
tolerance degree : + 4.0

rack travel mm : 13.30
Rated speed rpm : 1205

Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1385
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 15.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.50
Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 7.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.35
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 11.80
Tolerance mm : + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1200
rack travel mm : 14.35
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150

rack travel mm : 8.10
Tolerance mm : \pm 0.20

Rated speed rpm : 1150

Pressure hPa : 860
rack travel mm : 13.40
Tolerance mm : \pm 0.20

Pressure hPa : 320
rack travel mm : 9.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 168.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1205
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.40
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402736829
Injection pump
Pump designation : PES6P120A12ORS7261
EP type number : 0412726876
Governor
Governor design. : RQV350...1100PA924
: -7K
Governor no. : 0421815317
Cust. part No. : 3281842

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413047
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 3.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : + 0.10
Check
tolerance °NW : + 0.23

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 12.05
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 166.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1400
<hr/>	
Rack travel in mm	: 9.00
Tolerance mm	: + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 166.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 57.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 115.0
tolerance degree	: + 4.0

rack travel mm	: 11.00
Rated speed rpm	: 1145
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1275
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 70.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 17.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 4.90
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 250
CRT mm min.	: > 6.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 400
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 12.05
Tolerance mm	: + 0.05
<hr/>	
Rated speed rpm	: 700
rack travel mm	: 11.30
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 900
rack travel mm	: 11.55
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 500
rack travel mm	: 10.55
Tolerance mm	: + 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 12.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 320
rack travel mm : 8.30
Tolerance mm : \pm 0.20

Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 270
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402736830
Injection pump
Pump designation : PES6P110A120RS7263
EP type number : 0412716808
Governor
Governor design. : RQV350...1250PA964
: -11K
Governor no. : 0421815321
Cust. part No. : 3281780

Customer-spec. information
Customer : CUMMINS
Motor : 6BTAA
Power KW : 154.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413047
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.40
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 13.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 152.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.94
Tolerance mm : \pm 0.25

Rated speed rpm : 1316
guide sleeve
travel mm : 8.13
Tolerance mm : \pm 0.25

Rated speed rpm : 826
guide sleeve
travel mm : 4.51
Tolerance mm : \pm 0.25

Rated speed rpm : 353
guide sleeve
travel mm : 1.77
Tolerance mm : \pm 0.25

Rated speed rpm : 403
guide sleeve
travel mm : 2.42
Tolerance mm : \pm 0.25

Rated speed rpm : 460
guide sleeve
travel mm : 2.82
Tolerance mm : \pm 0.25

Rated speed rpm : 1620
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1440

Rack travel in mm : 9.00
Tolerance mm : \pm 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : \pm 4.0

control lever
position degree : 121.0
tolerance degree : \pm 4.0

rack travel mm : 13.50
Rated speed rpm : 1310
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1450
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

control lever
position degree : 17.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : $>$ 6.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.85
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 12.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1250
rack travel mm : 14.50
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.65
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200
rack travel mm : 14.50
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 570

rack travel mm : 11.30
Tolerance mm : \pm 0.20

Pressure hPa : 775
rack travel mm : 13.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 270
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1310
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : \pm 0.50

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0



Note remarks

Edition : 12.12.94
Test oil : ISO 4113

Injection pump
Pump designation : PES6P120A120RS7261
EP type number : 0412726876

Governor
Governor design. : RGV350...1100PA924
: -8K
Governor no. : 0421815318

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 176.0

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Inlet press. bar : 1.5

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Outside diameter : 6.0

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

Test pressure bar : 31.0
Tolerance bar : \pm 1.0

test only : ± 0.10

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

S.o.d. blocking
Barrel no. : 1
Tolerance : \pm 0.10
Check
tolerance °NW : \pm 0.23

Rated speed rpm : 1100

Del. quantity
cm³/1000 strokes : 145.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 9.00
Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 113.0
tolerance degree : + 4.0

rack travel mm : 9.80
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 68.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.85
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 10.00
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 10.35
Tolerance mm : + 0.15

Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 900
rack travel mm : 10.85

Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.70
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 320
rack travel mm : 8.50
Tolerance mm : \pm 0.20

Pressure hPa : 560
rack travel mm : 10.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94

Test oil : ISO 4113

Combination No. : 0402736858

Injection pump

Pump designation : PES6P110A12ORS7214

EP type number : 0412716805

Governor

Governer design. : RGV350...1200PA964

: -28K

Governer no. : 0421815428

Cust. part No. : 3282464

Customer-spec. information

Customer : CUMMINS

Motor : 6CTA-A

Power kW : 156.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 120

Tolerance L/h : ± 10.0

Test nozzle holde assembly

: 1688901101

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 4.40

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking

Barrel no. : 1

Tolerance : ± 0.10

Check

tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.35
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 148.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.80
Tolerance mm : \pm 0.20

Rated speed rpm : 1200
guide sleeve
travel mm : 9.10
Tolerance mm : \pm 0.10

Rated speed rpm : 450
guide sleeve
travel mm : 3.30
Tolerance mm : \pm 0.20

Rated speed rpm : 700
guide sleeve
travel mm : 6.10
Tolerance mm : \pm 0.20

Rated speed rpm : 1400
guide sleeve
travel mm : 10.90
Tolerance mm : \pm 0.20

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1330

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 148.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 11.30
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1380
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 275

CRT mm min. : $>$ 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 11.10
Tolerance mm : \pm 0.20

Rated speed rpm : 550
rack travel mm : 11.00
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 12.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1200
rack travel mm : 7.90
Tolerance mm : \pm 0.20

Rated speed rpm : 1200

Pressure hPa : 575
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Pressure hPa : 225
rack travel mm : 8.95
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94

Test oil : ISO 4113

Combination No. : 0402736859

Injection pump

Pump designation : PES6P120A120RS7261

EP type number : 0412726876

Governor

Governor design. : RQV350...1100PA924

: -10K

Governor no. : 0421815429

Cust. part No. : 3282465

Customer-spec. information

Customer : CUMMINS

Motor : 6CTAA

Power KW : 176.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holde assembly

: 1688901101

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 3.55

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking

Barrel no. : 1

Tolerance : ± 0.10

Check

tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 145.0

Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1400
Rack travel in mm	: 9.00
Tolerance mm	: ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 145.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 113.0
tolerance degree	: ± 4.0
rack travel mm	: 9.80
Rated speed rpm	: 1145
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1255
Tolerance 1/min	: ± 15
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 68.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 5.10
Tolerance mm	: ± 0.10
Rated speed rpm	: 250
CRT mm min.	: > 6.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 400
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 10.85
Tolerance mm	: ± 0.05
Rated speed rpm	: 700
rack travel mm	: 10.00
Tolerance mm	: ± 0.10
Rated speed rpm	: 900
rack travel mm	: 10.35
Tolerance mm	: ± 0.15
Rated speed rpm	: 400
rack travel mm	: 9.15
Tolerance mm	: ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 1100
Pressure hPa	: 900
rack travel mm	: 10.85

Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.70
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 320
rack travel mm : 8.50
Tolerance mm : \pm 0.20

Pressure hPa : 560
rack travel mm : 10.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 270
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736860

Injection pump
Pump designation : PES6P110A120RS7214
EP type number : 0402716805

Governor
Governor design. : RQV350...1200PA964
: -29K
Governor no. : 0421815430

Cust. part No. : 3282466

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 187.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.55
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1330

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 66.0

tolerance degree : \pm 4.0

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 13.50
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1410
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : \pm 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 14.55
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 11.50
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 14.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1200
rack travel mm : 7.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1200

Pressure hPa : 860
rack travel mm : 13.40
Tolerance mm : \pm 0.20

Pressure hPa : 320
rack travel mm : 9.45
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

K05

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736861

Injection pump
Pump designation : PES6P120A12ORS7261
EP type number : 0412726876

Governor
Governor design. : RQV350...1100PA924
: -11K
Governor no. : 0421815431

Cust. part No. : 3282468

Customer spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 166.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 9.00
Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 57.0
tolerance degree : + 4.0

control lever
position degree : 115.0
tolerance degree : + 4.0

rack travel mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 70.0
tolerance degree : + 4.0

control lever
position degree : 17.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.90
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.05
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 11.30
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 11.55
Tolerance mm : + 0.15

Rated speed rpm : 500
rack travel mm : 10.55
Tolerance mm : + 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 12.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1100
Pressure hPa : 320
rack travel mm : 8.30
Tolerance mm : \pm 0.20

Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402736862

Injection pump
Pump designation : PES6P110A12ORS7214
EP type number : 0412716805

Governor
Governor design. : RQV350...1200PA964
: -30K
Governor no. : 0421815432

Cust. part No. : 3282469

Customer-spec. information
Customer : CUMMINS
Motor : 6CTA-A
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.75
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 192.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1260

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 192.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 66.0

tolerance degree : \pm 4.0

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 13.20
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1405
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 67.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.70
Tolerance mm : \pm 0.10

Rated speed rpm : 275

CRT mm min. : $>$ 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.75
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 12.80
Tolerance mm : \pm 0.20

Rated speed rpm : 1200
rack travel mm : 14.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 14.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.00
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 785
rack travel mm : 13.00
Tolerance mm : \pm 0.20

Pressure hPa : 335
rack travel mm : 9.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 92.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402736863
Injection pump
Pump designation : PES6P120A120RS7206
EP type number : 0412726835
Governor
Governor design. : RQV350...1100PA924
 : -12K
Governor no. : 0412815433
Cust. part No. : 3282473

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047
Overflow quantity
min. l/h : 165
Tolerance l/h : ± 5.0

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 159.0

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1420
Rack travel in mm	: 9.00
Tolerance mm	: + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 159.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 57.0
tolerance degree	: + 4.0
control lever	
position degree	: 115.0
tolerance degree	: + 4.0

rack travel mm	: 11.10
Rated speed rpm	: 1145
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1275
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 75.0
tolerance degree	: + 4.0
control lever	
position degree	: 17.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 5.30
Tolerance mm	: + 0.10
Rated speed rpm	: 250
CRT mm min.	: > 6.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 450
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 12.15
Tolerance mm	: + 0.05
Rated speed rpm	: 600
rack travel mm	: 11.20
Tolerance mm	: + 0.10
Rated speed rpm	: 800
rack travel mm	: 11.80
Tolerance mm	: + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 12.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.20
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 300
rack travel mm : 8.90
Tolerance mm : \pm 0.20

Pressure hPa : 600
rack travel mm : 11.20
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.01.95
Test oil : ISO 4113

Combination No. : 0402746931

Injection pump
Pump designation : PES6P120A320RS7236
EP type number : 0412726848

Governor
Governor design. : RQV275...1000PA1001
: -2
Governor no. : 0421813989

Cust. part No. : CCEP5128A 66-194

Customer-spec. information
Customer : RVI
Motor : MIDR 063540 N/3
Power KW : 283.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413071

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

K15

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 19.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : -7.25

Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 74.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 600

Rack travel in mm : 13.35
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 290.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 300

Rack travel in mm : -8.20
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : \pm 2.5

Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1190

Rack travel in mm : 13.20
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 301.0
tolerance degree : \pm 4.0

rack travel mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : \pm 5

rack travel mm : -9.30
Rated speed rpm : 1205
Tolerance 1/min : \pm 15

rack travel mm : -12.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 247.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -8.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm max. : $<$ -6.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 365

TORQUE CONTROL

Rated speed rpm : 1000
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : -4.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.80
Tolerance mm : \pm 0.30

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -2.60
Tolerance mm : \pm 0.20

Pressure hPa : 480
rack travel mm : -0.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 195
Check
speed 1/min : $<$ 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 74.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.11.93
Test oil : ISO 4113
Combination No. : 0402746937
Injection pump
Pump designation : PES6P120A72ORS7268
EP type number : 0412726884
Governor
Governor design. : RQ275/1100PA915-2
Governor no. : 0421801671

Cust. part No. :

Customer-spec. information
Customer : IVECO-UNIC
Motor : 8460.41.603

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0
x inside diameter : 3.0

x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.15
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00

Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure

hPa : 900

Del. quantity

cm³/1000 strokes : 196.0

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance

cm³/1000S. : + 4.0

Spread

Tolerance

cm³/1000 strokes : 5.0

Check tolerance

cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 10.90

Rated speed rpm : 1153

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1245

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1350

LOW IDLE

control lever

position degree : 74.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 275

rack travel mm : 6.30

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 365

Tolerance 1/min : + 20

Rated speed rpm : 100

CRT mm min. : > 7.80

ANEROID/ALTITUDE

COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 240

rack travel mm : 9.50

Tolerance mm : + 0.10

Pressure hPa : 310

rack travel mm : 10.85

Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 900

Rated speed rpm : 550

Del. quantity

cm³/1000 strokes : 216.0

Tolerance

cm³/1000 strokes : + 3.0

Check tolerance

cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1153
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113
Combination No. : 0402936001
Injection pump
Pump designation : PES6P120A320/3RS8012
EP type number : 0412926017
Governor
Governor design. : RQV350...1100PA964
: -1K
Governor no. : 0421815253
Cust. part No. :

Customer-spec. information

Customer : CDC
Motor : 6CTA US 94
Power KW : 224.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413064
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1688901103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.40
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 12.05
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 113.0
Tolerance
cm3/1000 strokes : ± 1.0
Spreed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 350
 Rack travel in mm : 9.50
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 27.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1310
 Rack travel in mm : 9.00
 Tolerance mm : \pm 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 113.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 69.0
 tolerance degree : \pm 4.0
 control lever
 position degree : 118.0
 tolerance degree : \pm 4.0

rack travel mm : 11.00
 Rated speed rpm : 1145
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1265
 Tolerance 1/min : \pm 15

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1380

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : \pm 4.0

control lever
 position degree : 11.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 5.10
 Tolerance mm : \pm 0.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1100
 rack travel mm : 12.05
 Tolerance mm : \pm 0.05

Rated speed rpm : 850
 rack travel mm : 13.30
 Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
 Pressure hPa : 1200
 rack travel mm : 12.05
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.80
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 200
rack travel mm : 10.35
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 47.0
Tolerance
cm³/1000 strokes : \pm 1.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 350
rack travel mm : 9.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : \pm 3.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0402936002

Injection pump
Pump designation : PES6P120A12ORS8013
EP type number : 0412726013

Governor
Governor design. : RQV400...1250PA964K
Governor no. : 0421815252

Cust. part No. :

Customer-spec. information

Customer : CDC
Motor : 6BTA US 94
Power KW : 172.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413064

Inlet press. bar : 2.5

Test nozzle holder
assembly : 1688901103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1470

Rack travel in mm : 9.00
Tolerance mm : \pm 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200

RATED SPEED

control lever
position degree : 56.0
tolerance degree : \pm 4.0

control lever
position degree : 113.0
tolerance degree : \pm 4.0

rack travel mm : 11.00
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1435
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

control lever
position degree : 13.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 5.10
Tolerance mm : \pm 0.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 475

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.05
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200
rack travel mm : 12.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 8.50
Tolerance mm : \pm 0.10

Rated speed rpm : 1250

Pressure hPa : 200
rack travel mm : 9.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113
Combination No. : 0401646003
Injection pump
Pump designation : PES6R120/720LS1505
: -1
EP type number : 0411626005
Governor
Governor design. : RQV300...1100R3K
Governor no. : 0421415004
Cust. part No. : 51.11103-7393

Customer-spec. information
Customer : MAN
Motor : D2866LE401
Power KW : 440.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Lube oil : 1409918004
Test lines : 1680750089

L02

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 5.45
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 12.00
Tolerance mm : + 0.50
Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 15.30
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 385.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

2nd speed rpm : 325

Rack travel in mm : 5.10
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.12
Tolerance mm : \pm 0.25

Rated speed rpm : 1164
guide sleeve
travel mm : 10.04
Tolerance mm : \pm 0.25

Rated speed rpm : 826
guide sleeve
travel mm : 6.86
Tolerance mm : \pm 0.25

Rated speed rpm : 338
guide sleeve
travel mm : 2.28
Tolerance mm : \pm 0.25

Rated speed rpm : 388

guide sleeve
travel mm : 2.90
Tolerance mm : \pm 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 4.02
Tolerance mm : \pm 0.25

Rated speed rpm : 1430
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1230

Rack travel in mm : 14.30
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 2500

Del. quantity
cm³/1000 strokes : 385.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 14.30
Rated speed rpm : 1152
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1295
Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1425

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.10
Tolerance mm : \pm 0.10

Rated speed rpm : 225

CRT mm min. : $>$ 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 2500
rack travel mm : 15.30
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 1100

Pressure hPa : 1400
rack travel mm : 13.70
Tolerance mm : \pm 0.20

Pressure hPa : 300
rack travel mm : 8.60
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 260
Check
speed 1/min : $<$ 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 353.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 2500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 327.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.30
Rated speed rpm : 1152
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 555.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.10
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0401840771

Injection pump
Pump designation : PE12P120A520/4LS3854
EP type number : 0411820728

Governor
Governor design. : RQ950PA664-3
Governor no. : 0421801629

Cust. part No. :

Customer-spec. information
Customer : MAN
Motor : D2842LE
Power KW : 443.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345
Tolerance : ± 0.35
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 12

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 12.00

Rated speed rpm : 1025

Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 1085

Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1400

LOW IDLE

Testing:

Rated speed rpm : 250

rack travel mm : 4.60

Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 700

rack travel mm : 13.05

Tolerance mm : \pm 0.05

BREAKAWAY

Rack travel in mm : 12.00

Rated speed rpm : 1025

Tolerance 1/min : \pm 5

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113
Combination No. : 0401840777
Injection pump
Pump designation : PE12P120A520/4LS3840
: -1
EP type number : 0411820731
Governor
Governor design. : RGV250...900PA1198
Governor no. : 0421814117
Cust. part No. :

Customer spec. information
Customer : DAEWOO
Motor : D2842LE
Power KW : 440.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 12

BASIC SETTING

Rated speed rpm : 650
Rack travel in mm : 11.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 196.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

2nd speed rpm : 250

Rack travel in mm : 6.90
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1060

Rack travel in mm : 10.40
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 650
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 83.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

rack travel mm : 10.40
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1055
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 65.0
tolerance degree : ± 4.0

control lever
position degree : 30.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.90
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 7.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 650
rack travel mm : 11.40
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 11.40
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 310.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.90
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.05.94
Test oil : ISO 4113

Combination No. : 0401846926AA

Injection pump
Pump designation : PE6P110A720RS3040-2
EP type number : 0411816774

Governor
Governor design. : RQV200...1100PA555
: -4
Governor no. : 0421813878

Cust. part No. :

Customer-spec. information
Customer : SCANIA
Motor : DS11

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 172.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 7.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 14.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1070

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 61.0
tolerance degree : ± 4.0

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 11.90
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1290
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

control lever
position degree : 16.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 5.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 250

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 12.95
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.60
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : -
Tolerance mm : \pm 0.05

Pressure hPa : -
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 164.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 7.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.06.94
Test oil : ISO 4113

Combination No. : 0401846987

Injection pump
Pump designation : PE6P110A720RS3289-1
EP type number : 0411816795

Governor
Governor design. : RQ750PA1153-1
Governor no. : 0421801725

Cust. part No. : 1363596

Customer-spec. information
Customer : SCANIA
Motor : DS1193A

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750008

L14

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 172.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 759
guide sleeve travel mm	: 6.81
Tolerance mm	: ± 0.10
Rated speed rpm	: 520
guide sleeve travel mm	: -5.40
Tolerance mm	: ± 0.10
Rated speed rpm	: 850
guide sleeve travel mm	: 17.21
Tolerance mm	: ± 0.10
Rated speed rpm	: 793
guide sleeve travel mm	: 10.00
Tolerance mm	: ± 0.10
Rated speed rpm	: 850
guide sleeve travel mm	: 11.50
Tolerance mm	: ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 1500
Del. quantity cm ³ /1000 strokes	: 172.0
Tolerance cm ³ /1000 strokes	: ± 1.0

Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

RATED SPEED

control lever position degree	: 36.0
tolerance degree	: ± 4.0
control lever position degree	: 98.0
tolerance degree	: ± 4.0

TORQUE CONTROL

Rated speed rpm	: 700
rack travel mm	: 12.35
Tolerance mm	: ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 500
Pressure hPa	: 1500
rack travel mm	: 12.35
Tolerance mm	: ± 0.05

MEASUREMENT

Pressure hPa	: -
Rated speed rpm	: 500
rack travel mm	: 10.00
Tolerance mm	: ± 0.20

Rated speed rpm	: 500
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Pressure hPa	: 200
rack travel mm	: 11.75
Tolerance mm	: ± 0.05

Pressure hPa	: 140
rack travel mm	: 10.80
Tolerance mm	: ± 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.01.95
Test oil : ISO 4113
Combination No. : 0402046856
Injection pump
Pump designation : PE6P110A320RS3329Z
EP type number : 0412016744
Governor
Governor design. : RQV325...1300PA1119
Governor no. : 0421814083

Cust. part No. : 1284417/3

Customer-spec. information
Customer : DAF
Motor : NS133M
Power KW : 133.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 146.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

2nd speed rpm : 325

Rack travel in mm : 5.20
Tolerance mm : +- 0.10

Del. quantity
cm3/1000 strokes : 26.0

Tolerance
cm3/1000 strokes : +- 2.5

Check tolerance
cm3/1000S. : +- 5.0

Spreed
Tolerance

cm3/1000 strokes : 12.0

Check tolerance
cm3/1000S. : 15.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.33
Tolerance mm : +- 0.15

Rated speed rpm : 1353
guide sleeve
travel mm : 8.29
Tolerance mm : +- 0.20

Rated speed rpm : 900
guide sleeve
travel mm : 4.92
Tolerance mm : +- 0.25

Rated speed rpm : 405
guide sleeve
travel mm : 2.07
Tolerance mm : +- 0.25

Rated speed rpm : 455
guide sleeve
travel mm : 2.52
Tolerance mm : +- 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 2.93
Tolerance mm : +- 0.25

Rated speed rpm : 1640
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1450

Rack travel in mm : 10.80
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000

Del. quantity
cm3/1000 strokes : 146.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spreed
Tolerance

cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

RATED SPEED

control lever
position degree : 122.0
tolerance degree : +- 4.0

rack travel mm : 10.85
Rated speed rpm : 1342
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1460
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 83.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 225
CRT mm min. : $>$ 6.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : \pm 0.05

Rated speed rpm : 1300
rack travel mm : 11.85
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 6.60
Tolerance mm : \pm 0.20

Rated speed rpm : 600

Pressure hPa : 310
rack travel mm : 10.55
Tolerance mm : \pm 0.05

Pressure hPa : 130
rack travel mm : 7.85
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.5

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1342
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 12.0

Check tolerance : 15.0
cm³/1000S.



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.07.94
Test oil : ISO 4113

Combination No. : 0402646604

Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0412626924

Governor
Governor design. : RGV350...1050PA795
: -13
Governor no. : 0421814017

Cust. part No. : 1337549

Customer-spec. information
Customer : SCANIA
Motor : DS11 Allvarv

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 350

Rack travel in mm : 4.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1280

Rack travel in mm : 12.00
Tolerance mm : ± 1.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 236.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

L22

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 45.0
tolerance degree : ± 4.0

control lever
position degree : 102.0
tolerance degree : ± 4.0

rack travel mm : 12.30
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

control lever
position degree : 15.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 8.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.35
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 13.35
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 440
rack travel mm : 12.05
Tolerance mm : \pm 0.05

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.07.94
Test oil : ISO 4113

Combination No. : 0402646609

Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0412626924

Governor
Governor design. : RQV200...950PA725
: -11
Governor no. : 0421814033

Cust. part No. : 1340418

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 36

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 230
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : \pm 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : \pm 4.0

control lever
position degree : 116.0
tolerance degree : \pm 4.0

rack travel mm : 12.80
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 64.0
tolerance degree : \pm 4.0

control lever
position degree : 10.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.10

Rated speed rpm : 150

CRT mm min. : > 6.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 270

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.85
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.85
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.30
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 375
rack travel mm : 12.05
Tolerance mm : \pm 0.05

Pressure hPa : 185
rack travel mm : 11.00
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 237.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113
Combination No. : 0402646748
Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853
Governor
Governor design. : RQ300/1050PA1030-27
Governor no. : 0421801777

Cust. part No. : 0260744202

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
: 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 230.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.82
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.68
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.35
Tolerance mm : \pm 0.10

Rated speed rpm : 832

guide sleeve
travel mm : 6.09
Tolerance mm : \pm 0.10

Rated speed rpm : 421
guide sleeve
travel mm : 4.03
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 893
guide sleeve
travel mm : 6.26
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 230.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : \pm 4.0

rack travel mm : 13.80
Rated speed rpm : 1098

Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 405
 Tolerance 1/min : \pm 20

Rated speed rpm : 200
 CRT mm min. : $>$ 6.80

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

Rated speed rpm : 1050
 rack travel mm : 14.80
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 11.30

Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 400
 rack travel mm : 13.35
 Tolerance mm : \pm 0.20

Pressure hPa : 540
 rack travel mm : 14.20
 Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100

Check
 speed 1/min : $>$ 80

Rated speed rpm : $<$ 220

Check
 speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 228.0

Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 138.0

Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80

Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113
Combination No. : 0402646749
Injection pump
Pump designation : PE6P120A320LS7837
 : -10
EP type number : 0412626855
Governor
Governor design. : RQ300/1050PA993-13
Governor no. : 0421801779

Cust. part No. : 0260744002

Customer spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
 : 1-

Phasing : 0-60-120-180-240
 : -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.85
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.34
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 413
guide sleeve
travel mm : 4.55
Tolerance mm : \pm 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 100.0
tolerance degree : \pm 4.0

rack travel mm : 14.10
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 8.10

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 15.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : \pm 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0

Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113
Combination No. : 0402646750
Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0412626854
Governor
Governor design. : RQ300/1050PA1031-21
Governor no. : 0421801772
Cust. part No. : 0260743202

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413047
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Tolerance l/h : ± 10.0
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750075

M07

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1190
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 69.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : > 5.10

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 13.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 13.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 189.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646751

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQ300/1050PA1031-20
Governor no. : 0421801774

Cust. part No. : 0260743402

Customer spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.20
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 202.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 7.00
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.93
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.83
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.50
Tolerance mm : \pm 0.10

Rated speed rpm : 732

guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.10

Rated speed rpm : 430
guide sleeve
travel mm : 4.39
Tolerance mm : \pm 0.10

Rated speed rpm : 540
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 829
guide sleeve
travel mm : 6.38
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 800

Del. quantity
cm³/1000 strokes : 202.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : \pm 4.0

rack travel mm : 13.20
Rated speed rpm : 1098

Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.50
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : \pm 20

Rated speed rpm : 200
 CRT mm min. : $>$ 6.10

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 14.20
 Tolerance mm : \pm 0.05

Rated speed rpm : 550
 rack travel mm : 14.20
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 800
 rack travel mm : 14.20
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.50

Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
 rack travel mm : 11.65
 Tolerance mm : \pm 0.20

Pressure hPa : 350
 rack travel mm : 13.10
 Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100

Check
 speed 1/min : $>$ 80

Rated speed rpm : $<$ 220

Check
 speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 800
 Rated speed rpm : 550

Del. quantity
 cm³/1000 strokes : 197.0

Tolerance
 cm³/1000 strokes : \pm 3.0

Check tolerance
 cm³/1000S. : \pm 6.0

Speed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -

Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 127.0

Tolerance
 cm³/1000 strokes : \pm 1.0

Check tolerance
 cm³/1000S. : \pm 4.0

Speed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.20

Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113
Combination No. : 0402646752
Injection pump
Pump designation : PE6P120A320LS7836
 : -10
EP type number : 0412626854
Governor
Governor design. : RQ300/1050PA1030-26
Governor no. : 0421801775

Cust. part No. : 0260742602

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
 : 1-

Phasing : 0-60-120-180-240
 : -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.61
Tolerance mm : \pm 0.10

Rated speed rpm : 1103
guide sleeve
travel mm : 6.37
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 431

guide sleeve
travel mm : 4.05
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 95.0
tolerance degree : \pm 4.0

rack travel mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 7.40

TORQUE CONTROL

Rated speed rpm : 1053
rack travel mm : 12.40
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : \pm 0.20

Pressure hPa : 300

rack travel mm : 12.00
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646753

Injection pump
Pump designation : PE6P120A32DLS7836
: -10
EP type number : 0412626854

Governor
Governor design. : RGV300...1050PA1065
: -3
Governor no. : 0421814142

Cust. part No. : 0260742802

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.13
Tolerance mm : \pm 0.20

Rated speed rpm : 1108
guide sleeve
travel mm : 9.81
Tolerance mm : \pm 0.15

Rated speed rpm : 370
guide sleeve
travel mm : 2.00
Tolerance mm : \pm 0.25

Rated speed rpm : 420

guide sleeve
travel mm : 2.49
Tolerance mm : \pm 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.87
Tolerance mm : \pm 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1220

Rack travel in mm : 11.40
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 101.0
tolerance degree : \pm 4.0

rack travel mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : \pm 15

rack travel mm : 0.75

Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 68.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 8.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45

M20

Tolerance mm : \pm 0.20

Pressure hPa : 300
rack travel mm : 12.00
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100

Check

speed 1/min : $>$ 80

Rated speed rpm : $<$ 220

Check

speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700

Rated speed rpm : 550

Del. quantity
cm³/1000 strokes : 169.0

Tolerance

cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 135.0

Tolerance

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 4.0

Speed

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40

Rated speed rpm : 1095

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646755

Injection pump
Pump designation : PE6P120A320LS7836-2
EP type number : 0412626944

Governor
Governor design. : RQV300...1050PA1033
 : -20
Governor no. : 0421814140

Cust. part No. : 0260742702

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
 : 1-

Phasing : 0-60-120-180-240
 : -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80

Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : \pm 0.20

Rated speed rpm : 1107
guide sleeve
travel mm : 8.52
Tolerance mm : \pm 0.15

Rated speed rpm : 558
guide sleeve
travel mm : 4.53
Tolerance mm : \pm 0.25

Rated speed rpm : 608
guide sleeve
travel mm : 5.03
Tolerance mm : \pm 0.25

Rated speed rpm : 820
guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.25

Rated speed rpm : 1183
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 11.40
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 173.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 66.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : \pm 0.20

Pressure hPa : 300
rack travel mm : 12.00
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646757

Injection pump
Pump designation : PE6P120A320LS7836
: -1G
EP type number : 0412626854

Governor
Governor design. : RQ300/1050PA1030-25
Governor no. : 0421801771

Cust. part No. : 0260743002

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 95.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.60

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 13.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 13.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 189.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646758

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQ300/1050PA1030-24
Governor no. : 0421801770

Cust. part No. : 0260743302

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.20
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 202.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 7.00
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.78
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.69
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.35
Tolerance mm : \pm 0.10

Rated speed rpm : 818

guide sleeve
travel mm : 6.09
Tolerance mm : \pm 0.10

Rated speed rpm : 410
guide sleeve
travel mm : 4.39
Tolerance mm : \pm 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 889
guide sleeve
travel mm : 6.26
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 202.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 100.0
tolerance degree : \pm 4.0

rack travel mm : 13.20
Rated speed rpm : 1098

Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.70
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.90

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 14.20
 Tolerance mm : \pm 0.05

Rated speed rpm : 550
 rack travel mm : 14.20
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 800
 rack travel mm : 14.20
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.50

Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
 rack travel mm : 11.65
 Tolerance mm : \pm 0.20

Pressure hPa : 350
 rack travel mm : 13.10
 Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100

Check
 speed 1/min : $>$ 80

Rated speed rpm : $<$ 220

Check
 speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 800
 Rated speed rpm : 550

Del. quantity
 cm³/1000 strokes : 197.0

Tolerance
 cm³/1000 strokes : \pm 3.0

Check tolerance
 cm³/1000S. : \pm 6.0

Speed
 Tolerance

cm³/1000 strokes : 8.0
 Check tolerance

cm³/1000S. : 12.0

Aneroid pressure
 hPa : -

Rated speed rpm : 500
 Del. quantity

cm³/1000 strokes : 127.0
 Tolerance

cm³/1000 strokes : \pm 1.0
 Check tolerance

cm³/1000S. : \pm 4.0
 Speed

Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.20

Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646759

Injection pump
Pump designation : PE6P120A320LS7836
: -10

EP type number : 0412626854

Governor
Governor design. : RQV300...1050PA1033
: -19

Governer no. : 0421814137

Cust. part No. : 0260743102

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power kW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

N05

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1155

Rack travel in mm : 12.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 66.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 13.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 13.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 189.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646764

Injection pump
Pump designation : PE6P120A320LS7837-2
EP type number : 0412626943

Governor
Governor design. : RQ300/1050PA972-13
Governor no. : 0421801767

Cust. part No. : 0260742402

Customer spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.94
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.34
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 441
guide sleeve
travel mm : 4.85
Tolerance mm : \pm 0.10

Rated speed rpm : 570

guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 100.0
tolerance degree : \pm 4.0

rack travel mm : 14.10
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 8.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 15.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : \pm 0.20

Rated speed rpm : 400
Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : \pm 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646765

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQV300...1050PA797
: -43
Governor no. : 0421814134

Cust. part No. : 0260742502

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N12

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance

cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : \pm 0.20

Rated speed rpm : 1108
guide sleeve
travel mm : 8.54
Tolerance mm : \pm 0.15

Rated speed rpm : 558
guide sleeve
travel mm : 4.53
Tolerance mm : \pm 0.25

Rated speed rpm : 608

guide sleeve
travel mm : 5.03
Tolerance mm : \pm 0.25

Rated speed rpm : 820
guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.25

Rated speed rpm : 1183
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1140

Rack travel in mm : 14.10
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 14.10
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm	:	4.00
Rated speed rpm	:	1190
Tolerance 1/min	:	+ 15
rack travel mm	:	0.75
Tolerance mm	:	+ 0.75
Rated speed rpm	:	1300

LOW IDLE

control lever		
position degree	:	85.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.50
Tolerance mm	:	+ 0.10

Rated speed rpm	:	200
CRT mm min.	:	> 8.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm	:	350
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TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	15.10
Tolerance mm	:	+ 0.05

Rated speed rpm	:	1050
rack travel mm	:	15.10
Tolerance mm	:	+ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1100
rack travel mm	:	15.10
Tolerance mm	:	+ 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	9.15
Tolerance mm	:	+ 0.20

Rated speed rpm	:	400
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Pressure hPa	:	150
rack travel mm	:	10.05
Tolerance mm	:	+ 0.20

Pressure hPa	:	550
rack travel mm	:	13.85
Tolerance mm	:	+ 0.20

START CUT-OUT

Rated speed rpm	:	> 100
Check		
speed 1/min	:	> 80
Rated speed rpm	:	< 220
Check		
speed 1/min	:	< 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1100
Rated speed rpm	:	1050
Del. quantity		
cm ³ /1000 strokes	:	240.0
Tolerance		
cm ³ /1000 strokes	:	+ 3.0
Check tolerance		
cm ³ /1000S.	:	+ 6.0
Speed		
Tolerance		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm ³ /1000 strokes	:	135.0
Tolerance		
cm ³ /1000 strokes	:	+ 1.0
Check tolerance		
cm ³ /1000S.	:	+ 4.0
Speed		
Tolerance		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

BREAKAWAY

Rack travel in mm	:	14.10
Rated speed rpm	:	1095

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646766

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQ300/950PA993-11
Governor no. : 0421801766

Cust. part No. : 0260742302

Customer spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.28
Tolerance mm : \pm 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.34
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 340

guide sleeve
travel mm : 3.46
Tolerance mm : \pm 0.10

Rated speed rpm : 580
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1190
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 100.0
tolerance degree : \pm 4.0

rack travel mm : 14.10
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1105
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 15.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : \pm 0.20

Rated speed rpm : 400
Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : \pm 0.20

Pressure hPa : 550

rack travel mm : 13.85
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 998
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.20
Tolerance mm	:	+ 0.30
Del. quantity		
cm ³ /1000 strokes	:	19.0
Tolerance		
cm ³ /1000 strokes	:	+ 3.0
Check tolerance		
cm ³ /1000S.	:	+ 6.0
Speed		
Tolerance		
cm ³ /1000 strokes	:	6.0
Check tolerance		
cm ³ /1000S.	:	10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646767

Injection pump
Pump designation : PE6P120A32OLS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQV300...950PA797
: -42
Governor no. : 0421814133

Cust. part No. : 0260741502

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power kW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : \pm 0.20

Rated speed rpm : 1009
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.15

Rated speed rpm : 567
guide sleeve
travel mm : 4.66
Tolerance mm : \pm 0.25

Rated speed rpm : 617
guide sleeve
travel mm : 5.23
Tolerance mm : \pm 0.25

Rated speed rpm : 780
guide sleeve
travel mm : 6.31
Tolerance mm : \pm 0.25

Rated speed rpm : 1092
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1190
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1040

Rack travel in mm : 14.10
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 14.10
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : \pm 15

rack travel mm : 0.70
Tolerance mm : \pm 0.70
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 85.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 8.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 15.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : \pm 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.11.94
Test oil : ISO 4113

Combination No. : 0402646880

Injection pump
Pump designation : PE6P120A720RS7126
: -10
EP type number : 0412626929

Governor
Governor design. : RQV200...1050PA725
: -5
Governor no. : 0421813814

Cust. part No. : 1120969

Customer-spec. information
Customer : SCANIA
Motor : DS 11

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750015

Outside diameter : 6.0

N24

x inside diameter : 3.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.15
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 225

Rack travel in mm : 4.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1200

Rack travel in mm : 10.50
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

N25

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : ± 4.0

control lever
position degree : 117.0
tolerance degree : ± 4.0

rack travel mm : 13.10
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1215
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 64.0
tolerance degree : ± 4.0

control lever
position degree : 10.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 4.60
Tolerance mm : ± 0.30

Rated speed rpm : 100

CRT mm min. : > 6.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 14.15
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 510
rack travel mm : 13.05
Tolerance mm : \pm 0.05

Pressure hPa : 250
rack travel mm : 11.20
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.10
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 300.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 225
rack travel mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0